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- VI. Pleasure — Unpleasure. An Experimental Investigation on the Feeling Elements. By A. WOHLGEMUTH, D.Sc. (LOND.).



## PLEASURE—UNPLEASURE

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# PLEASURE—UNPLEASURE

AN EXPERIMENTAL INVESTIGATION ON  
THE FEELING-ELEMENTS

BY

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## PREFACE

THE experiments recorded in these pages were conducted during the academic years 1915-6 and 1916-7 in the Psychological Laboratory of University College (University of London). The manuscript was ready and in the publishers' hands in the early part of 1918, but, owing to difficulties created by the war, the printing could not be proceeded with before.

I wish to thank Professor Carveth Read, Mr J. C. Flügel, Dr Ll. Wynn Jones, and Dr G. E. Phillips for their kindness and perseverance in acting as observers in these protracted, difficult, and often unpleasant experiments. My thanks are due also to Professor C. Spearman for allowing me to conduct the investigation in his laboratory, and to Dr N. Carey for reading the proofs.

Having gone again through these pages, I am more than ever aware of their shortcomings as a descriptive account of "Feeling," but, as this is a first attempt in this direction, I may hope for some indulgence.

On the other hand, I have had ample opportunity of verifying and confirming many of the "Rules," and can testify that I personally derived often great benefit, during hard and trying times, from the application of some of the rules, as anticipated in Part V. of this monograph.

A. WOHLGEMUTH.

70 WEST END LANE,  
LONDON, N.W. 6.

*August 1919.*



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## I. INTRODUCTORY.

THE word “Feeling”—Gefühl—has not only in our everyday language a manifold and varying meaning—we speak of a man of delicate feeling, a feeling of nausea, a feeling of doubt or certainty, feeling our way, etc., etc.—but even in scientific terminology the denotation or connotation of the term are anything but settled. The ensuing confusion is, however, not the worst feature of the state of affairs; this could be remedied to a great extent by appropriate definition by every writer on the subject. What is worse is that some of the connotations of the term in its one sense seem, to my mind, to have been allowed to slip inadvertently into the connotation of the term in another sense, which originally it did not include. To make myself clear let us go from the general to the particular. According to the now prevalent view, the elements of the varied contents of our conscious processes are assigned to one or other of three classes, viz. that of the cognitive elements, that of the affective elements, and that of the conative elements. The affective elements are Pleasure-Unpleasure—Lust-Unlust<sup>1</sup>. In the affective processes, however, those elements seldom occur isolated, they are generally met with in combination, e.g. excitement and tension. The other constituent processes, e.g. excitement, tension, etc., were analytically separated from pleasure-unpleasure and regarded as other forms of feeling. This gave rise to the formulation of multidimensional theories of feeling, as e.g. those of Wundt, Th. Lipps, O. Vogt, Royce, etc. The elementary character of these new dimensions seems not to have been asserted at first and perhaps was not intended. But the elementariness connoted in the term “feeling,” as applied to pleasure-unpleasure became transferred to the new dimensions and was then asserted. However tension, relaxation, excitement, tranquillisation, etc., are not elementary; every one of these can be analysed again, split into component cognitive, affective and conative factors.

To make “Subjectivity” the *proprium* of feeling is quite misleading, for all processes of consciousness are subjective, and the statement that they are *subjectively subjective*, as Hamilton puts it, does not help matters,

<sup>1</sup> The older terminology is Pleasure-Pain, which in its turn has given rise to an almost hopeless confusion, *vide* my article this *Journal* 1917, vol. viii. pp. 423 *sq.*

for most organic sensations are experienced as such; this has in fact induced some writers to class them as feelings, viz. organic feelings.

The *Stellungsnahme des Ego*, the attitude of the ego, to a given experience, the *Reaktion der Apperception auf das einzelne Bewusstseinserlebnis* as a definition or criterion of feeling are open to the same objection, since they would class undoubted cognitive processes with the affective ones. Obscure states or processes of consciousness which we have not yet been able to analyse satisfactorily, but which are doubtless complex, as e.g. doubt, certitude, affirmation, denial, etc., are not feelings, they are not on the same footing as Pleasure-Unpleasure; they are best classed provisionally together under the collective name of *Bewusstseinslagen*, as suggested by Marbe<sup>1</sup>.

As the usage of the term "Feeling" has given rise to much equivocation, and, although it is desirable to have a technical term which is quite definite in its denotation and connotation, Titchener's attempt to arrive at this desideratum is anything but satisfactory; in fact I am inclined to think that he increases the confusion. "We have psychologists," he writes<sup>2</sup>, "... who posit an elementary affective process alongside of sensation... I shall use the term 'affection' for the elementary process in question, and for the sake of clearness I shall speak only of the qualities of pleasantness and unpleasantness.... As thought differs from emotion, so must the element of thought, the sensation, differ from the element of emotion, the affection.... I believe that the simple feelings—our experiences when we 'feel hungry,' 'feel dizzy,' 'feel tired,' 'feel comfortable,' 'feel poorly,' 'feel first-rate'—represent a stage of level from which we ascend to the emotions...." Again, "My personal view is... that affection must be given elemental rank in consciousness, as a process coordinate with sensation<sup>3</sup>." However, later we find "Affection reports the tone of the great bodily systems that lack organs of sense<sup>4</sup>," i.e. he applies the term to the organic sensations, the coenaesthesia. Elsewhere he says: "The simplest concrete process in which affection preponderates is the feeling. The feeling stands on the same level of mental development as the perception or idea; it is in reality a complex process, composed of a perception or idea and affection, in which affection plays the principal part<sup>5</sup>." "...the feeling is more affection than idea, the affectively toned idea more idea than affection<sup>6</sup>."

<sup>1</sup> Johannes Orth: *Gefühl u. Bewusstseinslage*. Dissertation, Berlin, 1903.

<sup>2</sup> *Feeling and Attention*, 1908, pp. 33-4.

<sup>3</sup> *loc. cit.* p. 289.

<sup>4</sup> *loc. cit.* p. 300.

<sup>5</sup> *Outlines of Psychology*, 1902, p. 224.

<sup>6</sup> *Outlines*, p. 225.

“Feeling is a mixture of perception and affection, in which the affection preponderates. Hence feeling cannot be satisfactorily classified except in terms of affections, the strongest part-process. Now there are only two qualities of affection: pleasantness and unpleasantness; and there are, accordingly, only two kinds or classes of feelings: pleasant feelings and unpleasant feelings. But as very many different perceptions may enter into one class of feelings, there will be many shades or varieties of feelings with each class. Thus the feeling of warmth and the feeling of satiety are both pleasant feelings, feelings of the same kind; but the difference of the sensation processes contained in them make a difference in the whole feeling<sup>1</sup>.”

It may be argued that it does not matter what terms we employ as long as we adequately define them. This is true enough as far as it goes for any particular treatise or paper. But if it is intended to introduce any particular term as a *terminus technicus* in general it is doubtless desirable to choose such a one which has not already a wide denotation. Now the term “Affection” which Titchener proposes to denote the feeling-elements, Pleasure and Unpleasure, has no advantage whatever over the term “Feeling.” In ordinary language the various meanings of “Affection” are almost as numerous as those of “Feeling.” We speak of the affection, the tender attachment of one person for another, of a pulmonary affection or disease, an old and strange affection (quality or property) of the house (Tennyson), and so on. In philosophical literature also the term has already assigned to it certain definite meanings. Dugald Stewart<sup>2</sup> calls affections “all those active principles, whose direct and ultimate object is the communication either of enjoyment or suffering, to any of our fellow-creatures.” According to this definition Resentment, Revenge, Hatred, belong to the class of our affections, as well as Gratitude and Pity. Reid<sup>3</sup>, Cogan<sup>4</sup> and others use it in a similar sense. Further, in modern German psychological literature *Affekt* is an accepted *terminus technicus* for certain emotional processes and since “Affection” is derived from *affectio* and *Affekt* from *affectus* neither the ancient nor the mediaeval usage of these terms warrants the assigning of the former to elementary processes whilst the latter denotes complex ones. Besides, Titchener himself has not always been consistent in this respect, for in his translation of Külpe’s *Grundriss* he renders the more

<sup>1</sup> *Outlines*, p. 228.

<sup>2</sup> *Outlines of Moral Philosophy*, part II. ch. 1, § 4, 142. *Collected Works*, ed. Sir Wm Hamilton, 1855, VI. p. 12.

<sup>3</sup> *Essays on the active powers of man*, Essay III. part II. ch. 3.

<sup>4</sup> *Ethical treatise on the Passions*, part I. ch. 1, § 1.

specific term *Affekt* by "emotion" and the more generic one, *Gemütsbewegung* by "affective process".<sup>1</sup>

I therefore deprecate Titchener's unnecessary innovation which would give us a second equivocal term. When beginning the present investigations I used the terms "Feeling" and "Feeling-tone" to denote the elements Pleasure and Unpleasure, and they appear to have been consistently adhered to by my observers in the protocols. However, in the text I have followed Lehmann<sup>2</sup> for the sake of precision and adopted the terms Feeling Elements and Affective Elements, or sometimes Feeling-tone.

I hold, on the whole, Külpe's view, who writes: "Durch zwei Eigentümlichkeiten unterscheiden sich Lust-Unlust von den Empfindungen insbesondere

(a) die Universalität ihrer Erregung;

(b) die Aktualität ihres Daseins (kein Unterschied zwischen primärem und sekundärem Erlebnis).

Was sonst noch als Kriterien von Lust-Unlust angegeben wird, wie die Gegensätzlichkeit, die Unbeachtbarkeit, die Unselbstständigkeit, die Einheitlichkeit, die Unlokalisierbarkeit, hat keine durchschlagende Bedeutung, weil sich in allen diesen Fällen Gegeninstanzen nahmhaft machen lassen. Wenden wir diese beiden Kriterien auf die von den Vertretern der Mehrdimensionalitätslehre ausser Lust-Unlust angegebenen Dimensionen an, so zeigt sich alsbald, dass dieselben nicht in demselben Sinne Gefühle genannt werden können<sup>3</sup>."

I come now to the purpose of the investigation recorded in these pages. A great many theories as to the nature of Feeling-elements have

<sup>1</sup> Die Affekte und Triebe fasst man in der Regel unter dem Namen Gemütsbewegungen zusammen. Emotion and impulses are ordinarily classed together as *affective processes*. *loc. cit.* § 52.

<sup>2</sup> Alf. Lehmann: *Grundriss der Psychophysiologie*, 1912, p. 358.

<sup>3</sup> Two characteristics distinguish Pleasure-Unpleasure from sensations in particular

(a) the universality of their excitation;

(b) the actuality of their existence (no difference between primary and secondary experience).

Anything else that may be cited as a criterion of Pleasure-Unpleasure, as e.g. antagonism, unobservability, dependence, uniformity, unlocalisability, has no decisive significance, because in all these cases counter-examples can be cited. If both these criteria are applied to the dimensions, other than Pleasure-Unpleasure, that are affirmed by the advocates of the multidimensionality-theory, it will at once be found, that these other dimensions cannot be termed Feeling in the same sense. O. Külpe: "Das Gefühl" im *Handwörterbuch der Naturwissenschaften* (Korschelt, etc.) 1913, Bd. 4, § 678 *sq.*

been advanced, yet the greatest possible divergence of opinion still obtains concerning the most simple properties of this class of conscious processes. To elucidate, then, by carefully conducted experiments, and, if possible, to settle some of the most hotly controverted questions in the psychology of Feeling were the ends for which this investigation was undertaken. I also kept in view the possibility of ascertaining why it has happened that some of the most careful experimenters and observers have arrived at absolutely contradictory results. Thus, to cite an instance, opinion is greatly divided upon the question whether two feelings can co-exist in consciousness. "Vom Zuständlichen der Seele findet sich in jedem Augenblicke unseres Bewusstseins nur eines, entweder eine besondere Lust oder Unlust; niemals hat das zuständliche Bewusstsein mehrere Lust oder mehrere Unlust zugleich, niemals auch Lust und Unlust zugleich aufzuweisen. Das Wort von dem zusammengesetzten und von dem gemischten Gefühl...findet in den Tatsachen unseres Seelenlebens keinen Rückhalt, denn jeder einzelne Seelenaugenblick weist nur ein einzelnes und zwar ein einfaches Zuständliches auf<sup>1</sup>."

Identical or similar views are advanced by Orth<sup>2</sup>, Wundt<sup>3</sup>, Alechsieff<sup>4</sup>, Titchener<sup>5</sup>, Bain<sup>6</sup>, Stanley<sup>7</sup>, Ribot<sup>8</sup>, and many others.

The opposite opinion is shared by Ebbinghaus, who states: "Wie wir gleichzeitig an den Füßen kalt und an den Händen warm haben können, so können wir auch die Lust einer wohlgeschmeckenden Speise und die Unlust heftigen Kopfschmerzes nebeneinander erleben. Selbst ein und derselbe Gegenstand oder Vorgang vermag uns gleichzeitig lustvoll und unlustvoll anzusprechen, soweit wir nämlich in unserem Vorstellen verschiedene Seiten oder Beziehungen des Gegenstandes gleichzeitig zu umfassen und doch auseinanderzuhalten vermögen<sup>9</sup>."

<sup>1</sup> There is to be found at any one moment of our consciousness only one kind of the subjective (*Zuständliche*) either a particular pleasure or a particular unpleasure. The "subjective" consciousness (*zuständliche Bewusstsein*) can never have several pleasures or several unpleasures simultaneously. The doctrine of the compound or of the mixed feeling finds no support in the facts of our conscious life, for every moment of consciousness shows only one solitary state, and that a simple one. J. Rehmke: *Lehrbuch der allg. Psychologie*, 1905, p. 305.

<sup>2</sup> Johannes Orth: *Gefühl u. Bewusstseinslage*, Berlin, 1903, p. 127.

<sup>3</sup> Wm Wundt: *Grundzüge d. phys. Psychologie*, 5te Aufl. 1902, II. p. 341.

<sup>4</sup> N. Alechsieff: *Die Grundformen der Gefühl. Psych. Studien*, 1907, III. pp. 259 *sq.*

<sup>5</sup> E. B. Titchener: *Outlines of Psychology*, 1902, p. 223; *Feeling and Attention*, 1908, pp. 45 *sq.* and p. 223.

<sup>6</sup> A. Bain: *Mental and Moral Science*, 1884, p. 76.

<sup>7</sup> H. M. Stanley: *Evolutionary Psychology of Feeling*, 1895, p. 57.

<sup>8</sup> Th. Ribot: *Psychologie des Sentiments*, 1908, p. 58.

<sup>9</sup> Just as we may sense cold in our feet and warmth in our hands at the same time,

Also Sully, who writes: "Here we have to ask how a plurality of affective elements behave when they come together into consciousness. As already remarked there is a radical opposition between pleasant and painful feelings as such—an opposition which causes the simultaneous rise of the two in consciousness to be always attended with some degree of the effect of conflict<sup>1</sup>." Further there may be cited Lehmann<sup>2</sup>, Saxinger<sup>3</sup>, Schmied-Kowarzik<sup>4</sup>, Johnston<sup>5</sup>, besides many others. Külpe<sup>6</sup> is of opinion that the question is still open, although he inclines to the view that pleasure and displeasure are opposed and tend to cancel each other.

McDougall gives expression to both views. In his *Physiological Psychology* and in his *Body and Mind* he definitely states that pleasure and displeasure cannot co-exist: "When many sensations, which individually have marked feeling-tone, are simultaneously excited, we cannot introspectively distinguish the feeling-tone of each sensation, the whole complex of sensation produces a resultant feeling, the sensations, to use a crude simile, pool their feelings...."<sup>7</sup> Again: "...if the pleasurable feeling-tendencies be regarded as of positive sign, and the disagreeable tendencies as of negative sign, we may express the facts by saying that the feeling-tendency of the various sensations simultaneously present to consciousness are algebraically summed, and, according as the resultant is of positive or negative sign, the feeling-tone of consciousness is pleasurable or disagreeable, or in other words, the individual feels pleasure or displeasure<sup>8</sup>." But speaking of happiness in his *Social Psychology* he says: "It is, I think, indisputable that a man may be unhappy while he actually experiences pleasure, and that he might make it more difficult to find pleasure and might make his pleasure thin so we may experience the pleasantness of a tasty dish and the unpleasantness of a severe headache side by side. Even one and the same object or occurrence may appeal to us pleasantly or unpleasantly at the same time, that is, in as much as we are able, in our thoughts simultaneously to grasp and yet to keep apart different aspects and relations of the object or occurrence. H. Ebbinghaus: *Grundzüge der Psychologie*, 1902, vol. I. p. 540.

<sup>1</sup> J. Sully: *The human Mind*, 1892, II, p. 42.

<sup>2</sup> A. Lehmann: *Psychophysiologie*, 1912, p. 396.

<sup>3</sup> R. Saxinger: "Dispositionspyschologisches über Gefühls-Komplexion." *Zeitschr. f. Psychologie*, 1902, xxx. p. 309.

<sup>4</sup> W. Schmied-Kowarzik: *Umriss einer neuen analytischen Psychologie*, 1912, pp. 205-6.

<sup>5</sup> C. H. Johnston: "The Combination of Feelings." *Harvard Psychol. Studies*, 1906, II. p. 177.

<sup>6</sup> O. Külpe: *Grundriss d. Psych.* 1893, p. 249.

<sup>7</sup> Wm McDougall: *Physiological Psychology*, 1905, p. 80.

<sup>8</sup> Wm McDougall: *Body and Mind*, 1911, p. 313.

in quality, but the two modes of experience are, though antagonistic, not absolutely incompatible and mutually exclusive.... What, then, is it without ceasing to be unhappy.... No doubt his unhappiness would experience one pleasure after another throughout a considerable period (i.e. happiness)? It may, I think, be indirectly defined by saying that happiness is related to joy in the same way that joy is related to pleasure. Pleasure is a qualification of consciousness of momentary duration, or, at most, of a fleeting character and it arises from some mental process that involves but a mere fragment of one's whole being. Joy arises from the harmonious operation of an organized system or sentiment that constitutes a considerable feature or part of one's whole being.... it is, as it were, more massive than pleasure; it is more intimately and essentially a part of oneself.... Happiness arises from the harmonious operation of all the sentiments of a well-organized and unified personality....<sup>1</sup>" Now, according to McDougall, joy is of a higher order than pleasure and, indeed, we find on introspective analysis of a mental process described as "experiencing joy" that the feeling of pleasure forms an essential part of the content. Further, happiness is of a higher order than joy, and again on introspective analysis of a mental process described as "being or feeling happy" we find that the feeling of pleasure is an essential content. Therefore if, as McDougall states, a man can experience displeasure whilst he is still happy, it follows that the two opposed feelings, pleasure and displeasure, can co-exist. McDougall cannot argue that the happiness becomes momentarily marginal in consciousness, for according to his own statement in a footnote on p. 313 in *Body and Mind*, when criticising Stout, he denies a feeling-tone to marginal consciousness. "The more accurate statement of the facts," he says, "would seem to be that, during the period of agreeably toned consciousness, there may be present in the marginal field of consciousness sensations which would determine disagreeable feeling if the attention were turned to them." Therefore, if the mental complex constituting happiness becomes marginal its affective concomitant, according to McDougall, disappears, and since, as we have seen, the feeling-element of pleasure is an essential factor in happiness, the mental process would cease to be happiness.

Many other highly important points in the psychology of feeling-elements remain as yet undecided, as e.g. the effect of attention upon the feeling-elements, the localizability of feeling-elements, the ekphor-ability of feeling-elements, the difference between pain and displeasure, etc.

<sup>1</sup> Wm McDougall: *Social Psychology*, 1908, p. 156.

As to the mode of experimentation I decided to rely entirely upon the Impression Method, i.e. upon introspection. The expression method in its present state of development is worse than valueless, it is misleading as regards the purpose of psychological investigation, for there is not known a single unambiguous physiological reflex, or a combination of them, indicative with absolute certainty of, and universally applicable to, a given psychical process and to that process only. Not only are the published results of the numerous investigations often quite contradictory, but there is a grave suspicion in many cases that the published respiratory, plethysmographic, sphygmographic and other curves are picked examples of "characteristic" curves, and we seldom find a statement as to how often the psychic process investigated occurred without producing the modifications in the curve, or how often there were changes in the curve without the psychic process. And is the paucity of the results compared with the vast amount of sedulous and laborious work expended upon it to be wondered at, if we bear in mind how fleeting and transient are the psychic processes? The pleasures and unpleasures produced under experimental conditions in the laboratory by a colour, or a taste, or a smell, etc., last but a few seconds, alternate quickly or, as we shall see, even co-exist. A particular feeling often does not endure beyond the fraction of an inspiration or expiration or the duration of a pulse-beat or two. Reference to the protocols given in section III of this paper, especially the later ones of each subject, i.e. to those obtained after a fair amount of special experience had been acquired, will bear out this statement. Mental processes are not like chemical substances that can be isolated and purified by fractional distillation, recrystallisation or dissolving and precipitating. A component of a mental process can by a careful observer, trained *ad hoc*, be rendered more vivid and prominent by what may be described by the phrase, attending to it in a special manner. I say advisedly "in a special manner," because the term "attending" is often used with varying connotation; but of this I shall speak later. Special objection, I think, attaches, at least for psychological purposes, to respiratory curves, for a process which is so much under the voluntary control of the subject becomes modified by the very fact of being a conscious act; and how can the subject help thinking about his respiration with the elaborate preliminaries and troublesome preparations, the putting on and fixing of the pneumograph, etc.

These remarks must, however, not be misunderstood or interpreted as disparaging the investigations referred to. They certainly have their

value, only, we must not deceive ourselves as to their importance or imagine that the expression method will ever be able to replace the impression method, as has been claimed by some of its enthusiastic exponents. This is a misconception which culminates in the absurdity, I cannot call it anything else, of endeavouring to establish an "Objective Psychology." "Objective psychology" is a contradiction in terms. Psychic phenomena are, and always will be, purely subjective, even if we could, by some play of imagination, conceive the possibility of ascertaining to a nicety the neural changes upon which, as I hold, they are dependent. But "objective psychology" confines itself to the study of the phenomena of bodily changes, such as alterations in respiration, circulation, secretion, changes in the tonus or in the activity of the viscera, muscles, etc., and assumes as true a theory, which is called the dynamogenic law. The first to enunciate it was, I believe, Fétré, who states it as follows: "Toutes les sensations s'accompagnent d'un développement d'énergie potentielle qui passe à l'état cinétique<sup>1</sup>." Bechterew says: "les phénomènes neuro-psychiques ne restent jamais définitivement internes ou cachés, mais finissent, comme les réflexes, par se transformer dans le travail mécanique des muscles ou le travail moléculaire des glandes et autres tissus de l'organisme<sup>2</sup>." Baldwin states the "Law of nervous resp. Mental dynamogenesis" succinctly as follows: "Every stimulus has a dynamogenic or motor force"; "Every state of consciousness tends to realize itself in an appropriate muscular movement<sup>3</sup>." This so-called law I hold to be a *shibboleth*; it has never been proved and has been thought to follow necessarily from the principle of the conservation of energy. A stimulus, i.e. energy, impinges upon a sense-organ, changes in form and becomes a nervous excitation. As such it passes up the afferent tracks to the brain and cortex, where it assumes consciousness, or interacts with the soul, according to the predilections of the particular philosopher, and then as the energy cannot be lost or dissipated it descends the efferent nerves and becomes mechanical or chemical energy through the intermediary of some muscles or glands, etc.

<sup>1</sup> All sensations are accompanied by a development of potential energy which passes into the kinetic state. Fétré: *Sensation et Mouvement*, 2me édition, 1900, p. 53.

<sup>2</sup> The neuro-psychic phenomena remain never definitely internal or hidden, but, like the reflexes, they are eventually transformed into the mechanical work of the muscles or the molecular work of the glands and other tissues of the organism. W. Bechterew: *La psychologie objective*, Paris, 1913, p. 27.

<sup>3</sup> J. M. Baldwin: *Handbook of Psychology, Feeling and Will*, 1891, pp. 28 and 281.

There is, however, no necessity for this assumption and the doctrine of the conservation of energy is more simply and satisfactorily satisfied by the hypothesis, which I accept, that consciousness itself is a form of energy. This view has been held among others by Ostwald<sup>1</sup> and Lehmann<sup>2</sup> and I may take this opportunity of mentioning what is, I believe, not generally remembered now, that Hermann Lotze, the interactionist, already advanced arguments, doubtless not with the intention of advocating this hypothesis, but which could be adopted by the most thorough-going energetist without changing a single word<sup>3</sup>.

Whether he likes to admit it or not, the objective psychologist has to rely after all upon introspection. This alone can confirm or disprove the statement that a slower but stronger pulse and a feebler but accelerated respiration is indicative of pleasure. Nor does his inconsistent reasoning seem to have struck him, for he professes on the one hand to be able to tell us most accurately from certain physiological changes in our bodies whether we experience say a pleasure or an unpleasure, and this with greater certainty than our self-observation can do, whilst, on the other hand, he asserts with equal emphasis and seriousness that when we observe all the bodily and physiological signs of terror or rage in a decorticated dog or monkey that these are mere reflexes unaccompanied by consciousness!

Having enlarged to a considerable degree upon my reasons for rejecting for my investigation the expression or objective method, it were well to add a few words upon the impression or subjective method, i.e. introspection or self-observation. To defend or justify it means simply stating a truism. If I experience a pleasure or a striving or a memory-image or anything else, I simply experience it; one cannot go beyond this. To question the apodicticity of this is simply questioning my very *esse*. A caution must, however, be added. The stream of consciousness is flowing on continuously, never halting for a moment; it therefore requires, to obtain results of any scientific value, talented, interested, psychologically trained observers to seize the fleeting contents of consciousness either in their flight, on the wing, so to speak, or in immediate retrospection by surveying the primary memory images. Good introspectors can be made, very good ones are born. As the characteristic transience and indefiniteness of the affective aspects of consciousness make them very difficult to observe—the indefiniteness of feeling-

<sup>1</sup> W. Ostwald: *Vorlesungen über Naturphilosophie*, 2te Aufl. 1902, p. 377.

<sup>2</sup> Alfr. Lehmann: *Grundzüge der Psychophysiologie*, Leipzig, 1912, p. 28.

<sup>3</sup> R. H. Lotze: *Medizinische Psychologie*, Leipzig, 1852, pp. 93 and 95.

elements has, indeed, by some authors been held to be a differentium—I considered it absolutely essential to make use of well trained observers only and to submit them to a further special training in the observation of the affective side of consciousness; that is, I continued the experiments until I found that there were no further improvements and the protocols began to become monotonously alike, although the possible combinations of the stimuli were still far from being exhausted.

My observers were all trained psychologists, lecturers or assistants, all graduates, in the Department of Experimental Psychology at University College, London.

I seize this opportunity to thank Professor Carveth Read, Mr J. C. Flügel, Dr Ll. Wynn Jones and Dr G. E. Phillips for acting as observers in these lengthy and not always pleasant experiments, and Prof. Spearman for allowing the investigation to be carried on in his laboratory.

In concluding these introductory remarks I may state my views as to the publication of the protocols. In an investigation such as the present one I consider it imperative to reproduce the protocols in full. The reader and critic must be able to judge the results for himself; and the reliability of the observers, which is very important when it is claimed to settle some highly controverted point, can only be ascertained by a careful perusal of the protocols. These must be available in their entirety. To give extracts only, or to state that such an observation occurred so and so many times is altogether unsatisfactory as it conveys only the experimenter's conclusions, and will seldom convince an investigator who has previously arrived at different conclusions. Instead of closing a question it would merely increase the controversy. Titchener's strictures upon Johnston's work<sup>1</sup> I fully endorse and in order not to lay myself open to the same criticism I produce my protocols in full. They are printed in small type in section III, and can be omitted by the reader who does not desire to go more deeply into the matter.

## II. EXPERIMENTAL.

In the experiments I made use of the stimuli enumerated in the following list. They are distinguished in the text by the attached letter and number.

<sup>1</sup> Titchener: *Feeling and Attention*, pp. 48 sq.

## LIST OF STIMULI.

*Tactile:*

- T 1.** Badger-hair brush.
- T 2.** Powder-puff.
- T 3.** Velvet.
- T 4.** Fine sand-paper.
- T 5.** Medium sand-paper.
- T 6.** Coarse sand-paper.

*Olfactory:*

- O 1.** Vanillin.
- O 2.** Heliotropine.
- O 3.** Musk.
- O 4.** Asa foetida.
- O 5.** Valeriate.
- O 6.** Skatol.

*Auditory:*

- A 1.** Tuning-fork, C 256.
- A 2.** Tuning-fork, E 320.
- A 3.** Organ-pipe.
- A 4.** Galton whistle.
- A 5.** Scraping noise.
- A 6.** Squeaking noise.

*Visual:*

- V 1.** Coloured paper, most pleasant.
- V 2.** " " less " ,
- V 3.** " " least " ,
- V 4.** " " least unpleasant. \*
- V 5.** " " more " ,
- V 6.** " " most " ,

*Gustatory:*

- G 1.** Chocolate.
- G 2.** Raspberry syrup.
- G 3.** Acetic acid.
- G 4.** Quinine.

*Painful:*

- P 1.** Bristle prick.
- P 2.** Pressure on deep tissues.
- P 3.** Forceps pinch.

In explanation may be added the following remarks:

**T 1** = Stimulus was applied with a good quality badger-hair shaving-brush, which was drawn across the dorsal surface of the hand in pronation with a gentle pressure so as to avoid as much as possible tickling.

**T 2** = Stimulus was applied with an ordinary powder-puff of medium size applied in a similar manner as **T 1**. In my case I found that the sensation produced was slightly less pleasant than that of **T 1**.

**T 3** = A piece of soft velvet formed into a ball with the velvety side outwards was applied as in **T 1** and **2**. It produced in my case a sensation less pleasant than **T 2**.

**T 4, 5 and 6** = Strips of sand-paper of fine, medium, and coarse grain respectively. Size about 4 cm. wide  $\times$  17 cm. long. In using these the strip was held by the experimenter at each end between the thumb and index-finger and was applied to the hand of the observer, generally the dorsal surface, with slight pressure and pulled to and fro in the direction of its length. In some cases, when it was desirable to avoid the pulling of the little hairs the strip of sand-paper was applied to the thenar eminence.

**O 1, 2 and 3** = The crystalline synthetic products Vanillin, Heliotropine, and Musk respectively were used; they were enclosed in small glass bottles with openings of 2 cm. in diameter.

**O 4** = The solid resin Asa foetida was used enclosed in a similar glass bottle.

**O 5** = Valeriate of Quinine was used, enclosed in a bottle as the other substances.

**O 6** = Skatol enclosed in a bottle like above. As I was unable to obtain the substance I prepared an impure product myself by fusing blood-albumen with caustic potash, allowing the greenish mass to cool and breaking it up into small lumps.

**A 1** = Tuning-fork C 256 vibrations was used. It was struck against the knee and then pressed with its stem against a resonator.

**A 2** = Tuning-fork E 320 vibrations was used in the same way as above.

**A 3** = A closed organ-pipe giving note B 240 was used; it was blown with the mouth.

**A 4** = The stimulus was given by blowing a Galton whistle with the mouth.

**A 5** = The stimulus was a noise produced by scraping with a piece of wood on a cigar-box, the one end of which was open similar to the resonating-box of a tuning-fork.

**A 6** = The stimulus was the squeaking noise produced by turning a glass stopper within the neck of a glass bottle.

**V 1-6** = The stimuli were given with coloured papers, they were 12·5 cm. square and presented to the observer in a good light. Each observer had his own set of papers picked out by himself before the experiments. He was given a packet containing a large number of colours and shades, as supplied by Bradley, Cambridge, Mass., and requested to pick out first the colour he liked the best, then the colour he disliked the most and so on until the series of six colours as described above in list was completed.

**G 1** = These were drops of plain chocolate of the size of a sixpence, the best quality of one of the best makes.

**G 2** = The finest Black Forest raspberry syrup was used.

**G 3** = A dilute solution of acetic acid was used which produced no pain sensations.

**G 4** = A concentrated solution of quinine hydrochloride was used. All the fluids were applied in 1-2 drop quantities upon the tongue by means of a small glass pipette fitted with an india-rubber teat.

**P 1** = A bristle prick on the dorsal surface of the hand. The diameter of the bristle was 0·4 mm. and it exerted a maximum pressure of 32 g.

**P 2** = Pressure exerted by means of a glass rod with rounded ends and 7 mm. diameter. The rod was applied to the intermetacarpal spaces on the back of the hand.

**P 3** = A pinch with broad pointed forceps of the skin of the dorsum of the hand.

When the stimuli were given singly they were continued as long as the subject wished; when they were given in pairs, they were of equal duration (except when stated to the contrary in Class A, group 2), but the pairs were repeated on request of the subject. Whenever practicable and advisable the members of pairs were given simultaneously.

The purpose of these investigations was, as stated above, to obtain as much information as possible about feeling by the impression method, leading from the simplest experiments gradually up to more and more difficult ones. I began by giving single simple stimuli, then I presented stimuli in pairs, first the stimuli belonged to the same sense and were

of the same quality but differing in as many of the other attributes as possible, e.g. intensity, duration, extensity. The members of these pairs were of necessity not presented simultaneously. The next group consisted of pairs of stimuli that affected the same sense, but differed in quality. They were given simultaneously whenever advisable, but successively where a third factor might be created by their simultaneity, e.g. colours were given successively because in their simultaneous presentation they might have toned well together or otherwise; tones were given separately to avoid clangs, discords, etc.; tactile stimuli were given simultaneously, one on each hand and so on. The last and most complicated group contained pairs of simultaneous stimuli belonging to different senses. The details will be easily understood from the following schema and from the instructions to the observers as given below.

## CLASS A. PRINCIPAL EXPERIMENTS

#### GROUP 1. *Single simple stimuli.*

**GROUP 2. Pairs of stimuli of same quality, but otherwise different attributes.**

The same stimuli as in Group 1.

GROUP 3. *Pairs of stimuli affecting the same sense, but of different quality*

<b>T</b> 1, 2	<b>O</b> 1, 2	<b>A</b> 1, 2	<b>V</b> 1, 2	<b>T</b> 2, 6	<b>O</b> 2, 6	<b>A</b> 2, 6
<b>V</b> 2, 6	<b>T</b> 3, 5	<b>O</b> 3, 5	<b>A</b> 3, 5	<b>G</b> 1, 2	<b>T</b> 1, 6	<b>O</b> 1, 6
<b>A</b> 1, 6	<b>V</b> 1, 6	<b>T</b> 2, 3	<b>O</b> 2, 3	<b>A</b> 2, 3	<b>V</b> 2, 3	<b>V</b> 3, 5
<b>T</b> 1, 3	<b>O</b> 1, 3	<b>G</b> 1, 4	<b>P</b> 1, 2	<b>T</b> 5, 6	<b>O</b> 5, 6	<b>A</b> 5, 6
<b>V</b> 5, 6	<b>T</b> 1, 5	<b>O</b> 1, 5	<b>A</b> 1, 5	<b>V</b> 1, 5	<b>A</b> 1, 3	<b>V</b> 1, 3
<b>T</b> 1, 4	<b>G</b> 3, 4	<b>T</b> 2, 5	<b>O</b> 2, 5	<b>A</b> 2, 5	<b>V</b> 2, 5	<b>T</b> 3, 6
<b>O</b> 3, 6	<b>A</b> 3, 6	<b>V</b> 3, 6	<b>O</b> 1, 4	<b>A</b> 1, 4	<b>V</b> 1, 4	<b>G</b> 2, 3
<b>P</b> 1, 3	<b>T</b> 4, 5	<b>O</b> 4, 5	<b>A</b> 4, 5	<b>V</b> 4, 5	<b>T</b> 2, 4	<b>O</b> 2, 4
<b>A</b> 2, 4	<b>V</b> 2, 4	<b>T</b> 3, 4	<b>T</b> 4, 6	<b>G</b> 2, 4	<b>P</b> 2, 3	<b>V</b> 3, 4
<b>G</b> 1, 2						

#### GROUP 4 Pairs of stimuli affecting different senses

At the beginning of each sitting a copy of the following instructions was given to the observer, who was requested to read those concerning the group that was about to be carried out.

*Instructions.*

GROUP 1. You will be presented with a number of stimuli, tactile, auditory, visual, gustatory, olfactory, etc., and you are required to introspect closely, concentrating your attention upon the affective side, the feeling-tone, of your experience. Describe your experience as well as you can in words.

GROUP 2. You will be presented with stimuli similarly as before; but the stimuli will be given in pairs which will be of the same quality, but otherwise of different attributes, i.e. intensity, extensity, duration. Concentrate again your attention upon the affective side of your experience, its feeling-tone. Compare these in each pair of stimuli and describe it as well as you can in words.

GROUP 3. You will be presented with pairs of stimuli as before. But now these pairs, although belonging to the same sense, will be of different qualities, e.g. two different colours, two different smells, etc. Concentrate again your attention upon the affective side of your experience, compare the feeling-tones of the two stimuli and describe your experience as before.

GROUP 4. You will be presented with pairs of stimuli as before. These pairs will now belong to different senses, e.g. a sound and a colour, a smell and a prick, etc. Concentrate your attention upon the affective side of your experience, compare the feeling-tones of the two stimuli and describe your experience as before.

N.B. In dictating your protocol carefully *avoid all metaphors*. Do not say, e.g., a colour is loud, or a sound is cutting, but if you cannot describe your experience otherwise than by a comparison, say that the sound or the colour, etc., is "as if . . ." *Especially avoid absolutely the metaphorical use of the terms PAIN and PAINFUL*. Should you begin *feeling tired* say so at once, in order that you may rest, or to suspend the sitting. It is undesirable to carry on the experiment when the observer is fatigued.

Before beginning the experiments the observers were given a copy of the following.

*Questions on the experiments on Feeling.*

1. What view do you hold respecting the co-existence or fusion of two feelings in consciousness? Do you hold the view on experimental, i.e. introspective, evidence or on theoretical grounds? Is that view necessary to fit in with any theory or system you hold?

2. Can you analyse the feeling from the sensation or cognitive part of your experience (a) other than pain, (b) in the case of pain?

3. Can you compare the feelings of two sensations or cognitive experiences other than pain, when given (a) successively, (b) simultaneously? Is there a difference in quality (modality), or in intensity only?

4. Can you compare the feeling-tone of a pain with the feeling-tone of another sensation or another pain?
5. Can you localize the feelings when the sensations are localizable?

The first question the observers had to answer before the experiments were begun and their statements precede the protocols. This was done to enable judgment as to how far preconceived ideas may possibly determine the course of the psychic processes during the experiments. The list of questions was shown to the observers for perusal at intervals, so as to keep them interested in these points of importance without asking questions or necessitating my entering into discussion about them and possibly conveying some suggestion, although there was little danger of this, owing to the fact that, as explained above, all my observers were trained psychologists.

The experiments just described were planned and plotted out before the investigation began and I thought that all questions of interest could be settled from the protocols I would collect. However, during the progress of the investigation points appeared and questions were raised which I thought might be elucidated by further experiments with different instructions. My perusal of literature on the subject also suggested some new experiments. These new experiments were generally performed between the experiments of class A and their protocols are interspersed with those of that class. New schemes were also prepared for other experiments. All these experiments can be grouped in different classes which I shall now describe.

In my instructions for the principal experiments (class A) I had asked the observer "to concentrate his attention on the affective side of his experience," whereby I meant him to live the experience in such a way as to be able to give the fullest account of its affective side. I then asked myself how the protocols or perhaps the process of consciousness might be modified by different instructions, e.g. "to live" the whole of the experience, or to attend to the cognitive side or to the conative side. All these later experiments may be grouped together as

#### CLASS B. "SPECIAL ATTITUDES" EXPERIMENTS.

##### 1. *The "to live" Attitude.*

The observer was asked to discard the previous instructions (i.e. those of class A) and "to live," "to give himself up to" the whole of his experience. These experiments are interspersed with those of class A.

2. *The cognitive or affective or conative Attitudes*<sup>1</sup>.

The following printed instructions were given to the subjects.

You will be given a stimulus and you are required, during the application of the stimulus, *to attend* principally to, *to give yourself up to*, *to live*

- (a) the cognitive part of your experience;
- (b) the affective     "     "     "
- (c) the conative     "     "     "

In dictating the protocol of your experience state in each case the whole of your experience, cognitive, affective, and conative, and how far you succeeded in adopting the attitude required.

The investigation was carried out according to the following plan:

Expts	1/3 <sup>2</sup>	stimulus	T	3	order of attitudes.	eg.	aff.	en.
"	4/6	"	<b>A</b>	5	"     "     "	aff.	en.	eg.
"	7/9	"	<b>O</b>	1	"     "     "	en.	eg.	aff.
"	10/12	"	<b>V</b>	6	"     "     "	eg.	en.	aff.
"	13/15	"	<b>G</b>	4	"     "     "	aff.	eg.	en.
"	16/18	"	<b>P</b>	1	"     "     "	en.	aff.	eg.
"	19/21	"	<b>T</b>	6	"     "     "	aff.	eg.	en.
"	22/24	"	<b>A</b>	1	"     "     "	aff.	en.	eg.
"	25/27	"	<b>O</b>	4	"     "     "	eg.	aff.	en.
"	28/30	"	<b>V</b>	1	"     "     "	aff.	en.	eg.
"	31/33	"	<b>G</b>	2	"     "     "	en.	eg.	aff.
"	34/36	"	<b>P</b>	3	"     "     "	eg.	en.	aff.

On comparing the contradictory statements of various authors as to the effect of attention upon feeling, and finding that my results of class A experiments were not giving a satisfactory answer, I came to the conclusion that the term *Attention* had been used in widely different meanings. I therefore decided to make a few special experiments with my well trained observers, viz.

## CLASS C. EXPERIMENTS ON FEELING AND ATTENTION.

To avoid discussion or explanation which could not fail to be suggestive in this particular case I handed to the observer without comment a copy of the following printed instructions:

You are asked to read carefully the following quotations taken from the works of eminent psychologists, and to state shortly your views upon the subject giving your reasons.

<sup>1</sup> I have to thank Prof. Spearman for suggesting this group of experiments.

<sup>2</sup> These numbers do not correspond with the numbers of the experiments in the protocols. *Vide* p. 21.

You will then be given various stimuli. Introspect carefully during their presentation, with the object of checking your views. The stimuli will be repeated as often as you require.

*Quotations.*

1. "Attention to a sensation means always that the sensation becomes clear; attention to an affection (i.e. feeling-element) is impossible. If it is attempted, the pleasantness or unpleasantness at once eludes us and disappears, and we find ourselves attending to some obtrusive sensation or idea that we had not the slightest desire to observe<sup>1</sup>."

2. "A weakly pleasurable feeling is intensified by the direction of the attention upon its concomitant sensations, and an impression which stands on the border line between pleasantness and unpleasantness may be made unpleasant by intense concentration of the attention upon it. In a certain sense, then, attention is a favourable condition for the feeling as it is for the sensation<sup>2</sup>."

3. "A mere direction of the attention to the feeling intensifies the feeling. If, however, the feeling is subjected to a psychological analysis and in this way becomes the object of attention, it is considerably weakened or even entirely destroyed<sup>3</sup>."

4. "We can intensify a pain (i.e. unpleasure) or pleasure by attending to it as such<sup>4</sup>."

The observer made first a statement as to the views he held upon the subject. Then a number of experiments were performed with various stimuli, the observer being requested to change between certain attitudes during the experiment, at his will, so as to be able to compare any modifications that might be occasioned by these changes of attitude. Finally another statement was required explaining what the observer had meant in these experiments by *Attention* or *Attending*.

Next we come to

CLASS D. EXPERIMENTS ON MEMORY AND FEELING,  
the nature of which is evident from the following two sets of instructions, of which (1) was printed, (2) was read out.

1. (a) You will be presented with a stimulus and you are required to give yourself up to the resulting experience, living it on the affective side.

(b) Instead of dictating the protocol of the experience you have just lived, you are required to reproduce, to revive, to remember, to ekphore it. In doing so attend especially to the feelings or affective components of your original experience. Be careful during the ekphory to distinguish between any *new feeling* that may be attached to a remembered or ekphored experience, and the *memory image of a feeling* or affective content of the original experience.

<sup>1</sup> Titchener: *Psychology of Feeling and Attention*, 1908, p. 69.

<sup>2</sup> Külpe: *Outlines of Psychology*, 1895, p. 258, § 39.

<sup>3</sup> Zoneff and Meumann: "Über Begleiterscheinungen psychischer Vorgänge in Atem und Puls." *Philosophische Studien*, 1903, Bd. 18, p. 73.

<sup>4</sup> J. Sully: *Human Mind*, 1892, I. p. 77.

2. I ask you to ekphore two situations where you remember to have experienced much pleasure or unpleasure. The difference between the two situations has to be this:

In the first ekphored situation you have to have a distinct memory image of that which caused the pleasurable or unpleasurable experience.

In the second ekphored situation such a memory image has to be absent.

After reading these instructions in order to make them clear I gave examples from my own experience:

The first situation is a beautiful afternoon in the late summer at the sea-side. Bournemouth. I remember distinctly the spotless deep blue sky contrasted by the dark golden-yellow of the sandy cliffs, and I have most distinct memory images of the blue sky and the yellow cliffs.

The second situation is my presence at a performance in a theatre of Strauss' "Traumwalzer," in which a very pretty, enticing and languid valse is a recurrent theme. This valse, I remember, I enjoyed immensely and it haunted me for a long time, but now I have entirely forgotten it, although I have very clear and definite visual memory images of the scenes, decoration, the auditorium, etc.

When the observer could not remember two suitable situations similar to my examples we had recourse to experiences in the present set of experiments.

Another set of experiments were devised to ascertain, if possible, how feelings were compared and how judgments concerning them were obtained, whether memory images played a part here. The observer was told to make himself comfortable in the easy chair and to be ready for introspection, that he would be asked a question, that he had to answer it right off, and that he had then to give a retrospective account of his mental process.

The questions were:

1. Do you like marmalade?	4. Do you like plum jam?
2. Do you like raspberry jam?	5. Do you like black-currant jam?
3. Which of the two do you like better?	6. Arrange the four preserves in the order of your preference.

A few special experiments were performed, viz.

#### CLASS E. EXPERIMENTS ON THE CO-EXISTENCE OF FEELINGS.

These varied from the experiments of class A, group 4, in the employment of special stimuli, e.g. hot and cold water, and in the instructions, the observer being told to look out especially for the feelings of the two stimuli and to watch and ascertain whether or no they occurred simultaneously in consciousness.

In

CLASS F. EXPERIMENTS WITH MOOD,

an attempt was made to create a mood by getting the observer, without his knowing the purpose, to talk at some length about a favourite subject, or failing this to induce a mood by Störring's method<sup>1</sup>, the swallowing of some raspberry syrup. When a mood had been induced stimuli were applied.

A few odd experiments may be grouped together as

CLASS G. VARIOUS EXPERIMENTS.

These were

- (1) Introspection on stroking the palm of the hand.
- (2) Introspection on a Pain stimulus which gradually increased in intensity.

The former of these experiments was suggested by what appeared to me somewhat superficial introspection described in a paper by Head and Holmes, referred to in a previous article of mine<sup>2</sup>. The latter experiment was performed to study the development of pain sensation from touch.

The experiments were performed in the Psychological Laboratory, University College, London, during the academic year 1915-16, and the beginning of 1916-17. The sittings always took place in the afternoon; they lasted generally less than one hour. The observer was comfortably seated in an easy chair and protected from any disturbing influence, such as distracting noise, bright light, etc. The protocols were dictated immediately.

III. PROTOCOLS.

The observers will be designated by the letters *W*, *X*, *Y*, and *Z*, which is not the order in which they are mentioned above.

In the protocols the experiments are numbered in their chronological order and these numbers do not correspond to one another with the different observers. The following schema gives a general survey of the experimentation, as explained in the foregoing section, and the distri-

<sup>1</sup> G. Störring: "Experimentelle Beiträge zur Lehre vom Gefühl." *Arch. f. d. ges. Psych.* 1906. Bd. 6. pp. 316-356.

<sup>2</sup> "On the Feelings and their neural correlate, with an examination of the nature of pain." *Brit. Journ. of Psych.* 1916, vol. viii. pp. 471-2.

bution of the experiments with the respective observers in the different classes and groups.

Observer W.	Observer X.	Observer Y.	Observer Z.
<b>CLASS A. PRINCIPAL EXPERIMENTS.</b>			
<b>GROUP I. Single simple stimuli.</b>			
1—31	1—30	1—31	1—31
<b>GROUP II. Pairs of stimuli of same quality, but different attributes.</b>			
32—62	31—62	32—39. 41—63	32—62
<b>GROUP III. Pairs of stimuli of same sense, but different quality.</b>			
63—94	63—94	64—80. 82—84 86—105. 108—119	63—127
<b>GROUP IV. Pairs of stimuli of different senses.</b>			
95—107. 109.	99—111. 114—125	120—149	128—136. 138—145 147—170
111—116. 118—125.			
133			
<b>CLASS B. "SPECIAL ATTITUDES" EXPERIMENTS.</b>			
<b>GROUP I. "To live" Attitude.</b>			
126—128. 130—132	128—134	—	171—175
<b>GROUP II. Cognitive, affective, conative Attitudes.</b>			
136—171	147—182	150—185	186—221
<b>CLASS C. THE INFLUENCE OF ATTENTION UPON FEELING.</b>			
172—181	183—188	190—191	—
<b>CLASS D. MEMORY AND FEELING.</b>			
134—135. 182.	137. 140. 143.	186—189. 192.	—
183—188	145—146. 189—195	193—198	
<b>CLASS E. CO-EXISTENCE OF FEELINGS.</b>			
129	126—127. 135—136.	81	146. 176. 177—185
	138—139. 141—142.		
	144		
<b>CLASS F. MOOD.</b>			
110	95—98	—	—
<b>CLASS G. VARIOUS.</b>			
108. 117	112—113	40. 85. 106—107	137

The following abbreviations are used in the protocols:

aff.	= affective.	enn	= conation.
attde	= attitude.	col.	= colour.
attn	= attention.	d.	= duration.
aud.	= auditory.	dil.	= diluted.
c.	= conscious.	e.	= extension.
C.	= consciousness.	expe	= experience.
cg.	= cognitive.	expl	= example.
egn	= cognition.	expt	= experiment.
cn.	= conative.	f.	= feeling.

f.t.	= feeling-tone.	Sn	= sensation.
gust.	= gustatory.	sue.	= successive.
i.	= intensity.	st.	= stimulus.
olf.	= olfactory.	tact.	= tactile, tactful.
org.	= organic.	unpl	= unpleasant.
P.	= pain.	Unpre	= Unpleasure.
pl.	= pleasant.	Unpls	= unpleasantness.
Plre	= pleasure.	vis.	= visual.
Pls	= pleasantness.	<	= increasing.
sim.	= simultaneous.	>	= decreasing.
simly	= simultaneously.		

For the sake of clearness we may here recapitulate other abbreviations already mentioned in these pages.

**W, X, Y, Z** are the distinguishing letters of the four observers (p. 21).

**T** 1—6 designate the tactile stimuli employed.

**O** 1—6 the olfactory stimuli.

**A** 1—6 .. auditory ..

**V** 1—6 .. visual ..

**G** 1—4 .. gustatory ..

**P** 1—3 .. pain .. (pp. 12, 13).

The letters A to G distinguish the seven classes into which the experiments are divided. The meaning of the letter is always clear from the context, and no ambiguity can arise although the letters A to G are used for stimuli and class of experiments, and C is also applied to a class of experiments and is too used as an abbreviation for "consciousness."

#### OBSERVER W.

##### *Statement.*

I have on the whole a very fairly open mind on the subject. When I first began to study psychology I should have said without much uncertainty that two feelings could co-exist. A little later, under the influence of McDougall, I grew more doubtful on the subject. Recently, as the result of introspective work of my own upon feelings in everyday life and of introspection in the course of McQueen's<sup>1</sup> experiments on simultaneous performances, I became gradually more convinced that two feelings might co-exist together in consciousness. I was, however, prepared to find on more accurate introspection, devoted specially to the study of this part, that what might at first appear to be co-existence was really a very rapid alternation. I felt, however, that the alternation

<sup>1</sup> E. Neil McQueen: "The distribution of Attention." *Monograph Supplement V* of this series.

must in many cases be so rapid as to be for practical purposes the same thing as co-existence. I do not think my views are at the present time, to any great extent, determined by any theory or system. They are determined principally by my own introspections on the subject, but I do not regard them as in any way fixed or final.

13/10/15.

*Expt 1: T 1 (class A 1).*

In foreperiod attn coupled with low degree of fear. Tension was at its maximum  $\gamma 1, \eta 8$ . when st. was felt. Tension slightly unpl., probably due to fear. Distinct surprise.  $\beta 1, \delta 1$ . Expected a punctate st. Search for cause of st. Recognition, followed by distinctly pl. f.t. "Soothing," "reposeful," flashed through mind and thoughts about hypnosis. Pls increased rapidly at first and remained at high level.

*Expt 2: O 1 (class A 1).*

Tension as before, less marked. Slight disappointment during one inhalation as nothing was smelt. Tension fell and then rose at once when the thought occurred "it must be coming." Certain amount of excitement when st. was perceived. Weak st.—the C. was aff.  $\alpha 1$ . chiefly, quite distinctly pl., less than preceding st. Pls seemed to be bound up with weakness of Sn.

*Expt 3: A 1 (class A 1).*

Tension. During initial stages of Sn Unpls which was bound up with the noise of hitting  $\kappa 4$ . fork. Thought noise interfered with tone and that tone itself would be pl.; thought that  $\beta 3$ . noise was vanishing. This thought was pl. in itself. Sn was distinctly pl., rising rapidly  $\zeta 1$ . at first and continuing on high level. Towards end additional Pls of mood, which was contented, reposeful, due to org. Sns. Vague vis. image of some indistinct object a long way off., e. of muscular relaxation.

*Expt 4: V 1 (class A 1).*

$\beta 3$ . Indifference, recognition of col.—col. slightly unsaturated—vague thoughts connecting it with want of character, slightly unpl. Attde became spectacular and f.t. before  $\kappa 1$  came pl.

*Expt 5: G 1 (class A 1).*

$\iota 1$ . Image of taste before the chocolate was put in mouth, pl. During biting actual Sns  $\gamma 1, \beta 3$ . were indifferent, pleasureable expectation of gust. Sn, purely thought Pls. Taste to the end slightly pl. Curious oscillations in Pls. Some momentarily slight bitter Sns which  $\delta 4$ . were slightly unpl. and which either existed simly or oscillated rapidly with the pl. Sns which predominated.

*Expt 6: P 1 (class A 1).*

Tension (expectant attn); at first indifferent. Then there rose quickly P. Sn of pricking character which was distinctly though not intensely unpl. Sn of warmth. F. came in C.  $\theta 1$ . quickly and rose quickly in i. afterwards declining until a condition of practical indifference was reached. Thought: "this is tolerable." An after-effect was quite as unpl.

*Expt 7: A 4 (class A 1).*

$\gamma 1$ . Tension. Slight Unpls first due to a kind of lack of adaptation. The blowing noise  $\beta 2$ . accompanying tone was unpl. Unpls vanished, spectacular attde towards st. Sn itself  $\zeta 1$ . distinctly though feebly pl. Mood and org. Sns little marked. Blowing noise interfered  $\kappa 4$ . with tone and was unpleasantly disturbing.

## Expt 8: V 4 (class A 1).

γ 1. Brief period of slight Unpls connected with getting adapted. Spectacular attde—col. very slightly unpl.—thought "want of character."

## Expt 9: O 4 (class A 1).

No tension; slight Unpls from beginning, rising slowly at first and then rapidly to considerable height: "nauseating," the word only occurred. Slight incipient spitting movements. On removal primary memory image which was distinctly unpl.

## Expt 10: T 4 (class A 1).

Surprise during early part. Wonder as to nature of st. Recognized sand-paper. Slight degree of Unpls which rose, maintaining itself to end.

## Expt 11: V 5 (class A 1).

Unpls rising quickly at beginning which at first was associated with st. Followed by period during which several thoughts and judgments occurred: "crude—lacked depth."

β 2. δ 7. Spectacular attde arose and Unpre diminished and became a slight degree of Ptre.

## Expt 12: A 5 (class A 1).

Unpl. rising first slowly then rapidly and remaining high: thought "sounds like cutting wood." Judgment: "noise crude, rough, undefined." Slight degree of anger.

## Expt 13: O 5 (class A 1).

δ 6 ±. Unpre which rose slowly at first and then rapidly. Seemed to keep pace with rise of Sn (for a brief period it lagged possibly behind). Vague C. of search for reason of Unpls κ 1. or a concept under which to bring the Unpls. This eg. activity abstracted from aff. activity. Slight movement of lips.

14/10/15.

## Expt 14: T 5 (class A 1).

Surprise. Getting used to st. Intellectual state "What is it?" A coolness becoming perceptibly pl.—c. of another component, recognizing it as roughness which was unpl.—α 4. first increase, then subsidence—coolness again. Fusion—slightly unpl.

## Expt 15: G 4 (class A 1).

Coolness slightly pl.—taste quality becoming mixed with it, slowly overwhelming it—period of confusion trying to recognize quality. Then aff. side became more prominent. α 4. Salt taste < rapidly in Unpls, then bitterness became mixed with it, Unpls rising. Finally, δ 8. taste became purely bitter when liquid reached back of mouth, Unpls remaining at high level.

## Expt 16: O 2 (class A 1).

α 1. First pl., mixed up with feebleness of Sn. Increase of Sn, f. changed through in-δ 6. difference to Unpls. Sickly.

## Expt 17: V 4 (class A 1).

β 7. First pl.—that there was something there to look at appeared agreeable—thought: β 3. "fairly gay col."—slight muscular or org. Sns—became less pl., appeared slightly washy.

## Expt 18: T 2 (class A 1).

Indifference very brief. Sn became pl. rising rapidly to high level, continued to rise δ 7. slowly to end. Words "pussy cat" occurred—vis. image of furred animal—thought "hope this will go on." Most intense pl. up to now—org. Sns in background.

## Expt 19: V 3 (class A 1).

Mere stimulation seemed pl.—wished col. were more saturated—pl. f. became less marked and changed into slight Unpre. Thought col. was washy and lacked character. δ 7. F. changed again and became slightly pl.

## Expt 20: T3 (class A 1).

Tension with expectancy—slight degree of fear or apprehension—indifference period. I  
 $\beta 4$ . compared with last tact. st. and began to expece Plre in less degree, which continued. In  
 after period smarting Sn which was disagreeable.

## Expt 21: A3 (class A 1).

$\gamma 1$ .  $\eta 7$ . Initial period of adaptation with excitement which was pl. Died away and perception  
 of st. became gradually clearer. Sn was distinctly pl., which Pls rose and then remained  
 $\xi 1$ .  $\delta 6$ . so. Was complicated by pl. org. Sns connected with mood. An overtone decreased. Pls.  
 Vague vis. image of steamer in fog.

## Expt 22: O3 (class A 1).

$\gamma 1$ . Initial period of adaptation—indifferent—st. became clearer and f. became pl. rising to  
 $\epsilon 3$ . end. Vague vis. image of powder puff.

## Expt 23: P3 (class A 1).

First slightly pl. coolness. Pls went slowly—period of wondering what was happening  
 —became aware of painful Sn, unpl. from first. Unpls grew considerably with i.—recog-  
 nized a pinch. Unpls grew to high level. Incipient motor tendencies to shout.

## Expt 24: O6 (class A 1).

Rapid but short rise of Plre at beginning, slow rise continued to end.

## Expt 25: T6 (class A 1).

$\gamma 1$ . Period of adaptation, followed by rapid rise of unpl. f. Then became aware of P.  
 $\delta 9$ . mixed with pressure. P. was intermittent. Unpls oscillated also. Movement tendencies.  
 Fear or apprehension which became accentuated in the intervals. Hoped it would soon  
 end.

## Expt 26: P2 (class A 1).

$\eta 2$ . Tension, expectant apprehension in fore period. Became aware of st. by temperature  
 and pressure Sns. First coolness which was pl., then vanished—pressure Sn became more  
 $\eta 1$ . intense and became unpl.—slight degree of anger towards st. P. which increased steadily  
 in i. and which was unpl. from first. P. much later than pressure Sn. Tendency to move-  
 ment.

## Expt 27: G3 (class A 1).

First mere tact. Sn, then warmth which was pl., changed to definite gust. Sn which  
 $\delta 10$ . was slightly unpl. Became aware of prickling Sns at first slightly unpl., becoming at inter-  
 vals pl. Gust. Sns returned to C. with prick and became highly pl. at intervals. The whole  
 had a tone about it which is best described as voluptuous. Then prick became more unpl.,  
 $\delta 4$ . although a pl. element remained in C. They appeared to be together simly or in very  
 rapid succession. Swallowed.

15/10/15.

## Expt 28: G2 (class A 1).

First coolness which was pl., then taste quality entered alongside, first indifferent then  
 became pl.—the word “sweet” occurred and I gave myself up to enjoyment of Sn. Spec-  
 tacular and passive attde. With effort swallowed wondering how Sn would change. Pls  
 became more intense, Sn altering its character a little. There seemed to arise an element  
 $\delta 4$ . which I would describe as sickly, which was slightly unpl. This was sim. with Pls or oscil-  
 lated quickly for some time.

## Expt 29: A 6 (class A 1).

η 13. Emotion of surprise which coincided with adaptation to st. which is necessary to get a definite perception. Rapid fluctuations of f.: sometimes slightly pl. and sometimes slightly δ 6. unpl.—first unpl., then pl., then with increased i. of st. unpl., etc. Sort of primary memory α 1. image which was pl. Vague vis. image of parrot. During one pl. interval Sn seemed to induce a certain gaiety. In after period the meaning was there “gay but crude.”

## Expt 30: V 6 (class A 1).

Rapid rise of Unpre at beginning accompanied by slight emotion of disgust which β 3. started a little later. The idea of fæces occurred which soon died away and Unpls became a little less. It continued at a high level to end. Slight muscular tendency to shake head, expressive of disgust.

## Expt 31: A 2 (class A 1).

κ 4. First, Unpls caused by noise of striking which interfered with perception of tone. η 4. Disappointment that tone was so feeble. Period of slight Plre, partly at the mere sensory ξ 3. content, partly due to a mood in which the ideas of repose and distance were present. η 3. η 4. ξ 1. Org. Sns here played a part. Slight boredom with slight Unpre, and then again period of α 1. disappointment at feebleness which was unpl.

18/10/15.

## Expt 32: T 1 (d.i. &lt;) (class A II).

Some surprise at first one. First very little f., then gradually became slightly pl., occasionally tickling which was disagreeable, pl. as a whole, continued to rise until cut short by removal of st. Then followed some disappointment at cessation and tickling after-effect which was unpl. In second st. no appreciable period of adaptation. Plre rose δ 6. at once to a fair height and increased slightly. Much more pl. than first, especially towards end. There were also org. Sns which seemed to be an integral part of, or helped to constitute, a mood of repose which was distinctly pl. Plre lasted for some time after removal of st.

## Expt 33: O 1 (d.i. &lt;) (class A II).

β 1. First, distinct Plre connected with mere fact of perception at having got the Sn from the weak st. St. itself was also pl. rising very rapidly to fairly high i. Something “bracing,” δ 6. sthenic—second Plre rose fairly quickly, then declined as the st. seemed to grow fainter η 4. α 1. towards end, when this happened there was disappointment at st. being so weak. The first was distinctly more pl., i.e. the whole aff. state, also the f.s only of the two Sns.

## Expt 34: A 1 (d.i. &lt;) (class A II).

γ 1. Adaptation easier in case of second st., it seems to interfere less with f. First slight disturbance by adaptation and noise of striking, both of which were unpl. On adaptation it was very pl. Also present reposeful mood. In second st. Plre was on the whole about the same. Mood present but, compared to first st., less reposeful and more sthenic. St. itself α 1. also was thought of as more vigorous, “Einfühlung.” At times, however, the i. of tone became somewhat irritating and acquired a character of insistence which was disagreeable.

## Expt 35: G 1 (d.i.sim.) (class A II).

Allowed both chocolates to rest each on one side of tongue. Small gust. Sns which were both pl. Could not distinguish any difference except tact. Sns, the smaller was more pl.

## Expt 36: V 1 (i.d. &lt;) (class A II).

First pl. from beginning. I noticed no gradual rise of f. which seemed to be there in fairly high i. No period of adaptation. There were in C. vague, dreamy ideas of richness of col.; otherwise almost entirely spectacular; slight muscular relaxation.—Second st.  $\gamma 1.$  required an appreciable time of adaptation, f. unpl. Surprise at very considerable difference of appearance of st. which was now slightly unpl. I thought vividness had gone out of it, very little character. Analogy of dil. wine.

## Expt 37: P 1 (i.d. &lt;) (class A II).

First, initial period of adaptation accompanied by apprehension. Rapid rise of Unpls  $\delta 6.$  to fairly high level, only abated gradually, together with Sn.—Second Unpls rose less rapidly and attained less high level and was declining at end. Thought that I was pleased  $\beta 4.$   $\delta 4.$  that it was not worse, "f. of relief," which was slightly pl. It really seemed to be present at the same time as the Unpls of the Sn.

21/10/15.

## Expt 38: A 4 (i.d. &lt;) (class A II).

$\delta 12.$   $\alpha 1.$  Second much more pl. First Sn seemed weak and f.t. was unpl. Sn itself not unpl.,  $\gamma 4.$  but the disappointment rather, there was some contempt, so to speak, for it.—Second Sn  $\gamma 1.$   $\alpha 1.$  f.t. first slightly unpl. during period of adaptation. As Sn became stronger f.t. changed  $\delta 3.$  and became markedly pl. St. seemed to cause a reposeful mood. Plre seemed to depend largely upon this mood more than on quality of st. itself.

## Expt 39: V 4 (i.d. &lt;) (class A II).

No marked difference between f.t.s. First was slightly pl. I had a purely spectacular attde. Plre attached directly to st.—In second also a certain amount of Plre, but towards  $\alpha 2.$  the end I attributed to the Sn a certain quality which seemed to me unpl., hot or fiery.  $\delta 12.$  This was slightly unpl. I do not think two f.t.s co-existed, the one gave place to the other. Just at the end this quality receded and the Sn became again slightly pl.

25/10/15.

## Expt 40: O 4 (i.d. &lt;) (class A II).

Second slightly more unpl. First: first of all I smelt something, then immediately afterwards an unpl. f. which in a moment attained a very considerable height and then  $\delta 6.$  died away gradually together with Sn.—In case of second Sn rise was slightly less rapid but finally attained a greater height. I noticed incipient movement for expiration and of mouth and lips. I really think there was an incipient Sn of nausea.

## Expt 41: T 4 (i.e.d. &gt;) (class A II).

Second more pl. In first case there were momentary flashes of P. Sns, unpl. Actual  $\eta 1$  &  $9.$  contact was also unpl., due to roughness. There was also distinct emotion of anger (irritation) directed against st. At end of stimulation thought the st. was irritating. The whole expe was on the whole, but not markedly, unpl.—The second st. was at first neutral  $\delta 7.$  and became then pl. There was direct comparison and the Pls seemed to be due to the  $\beta 4.$  comparison. Comparatively smooth, no P., no irritation. Its decided but gentle character was sympathetic.

## Expt 42: V 5 (i.d. &lt;) (class A II).

Very little difference between the two in f.t. The first fluctuated. Sometimes st. appeared reposeful, at other times rather poor and lacking in i.; it gave me the impression of weakness together with suspicion of dirtiness which was unpl. Activity of thought: which of the views was really justified.—In second st. attde more spectacular, very little  $\delta 10.$  f. Very close approach to complete indifference. At one time there was a suspicion of oscillation as with first st., but less marked.

## Expt 43: A 5 (i.d. &lt; ) (class A II).

Second more unpl. First seemed to have a character of roughness and crudeness, almost say of boorishness, distinctly unpl. to begin with. Afterwards this died away and  
 δ 7. I think towards the end the f.t. became almost pl., at least st. became quite tolerable. The Pls consisted partly in a characteristic of the Sn. Ideas of simplicity and repose were fleetingly aroused.—The second was unpl. like first, but slightly less to begin with, and Unpls continued to increase and became high towards end. There was the thought: "It  
 α 3. was cruel to make such a st." Unpl. visceral Sns in epigastrium and expe of tension in head.

## Expt 44: O 5 (i.d. &lt; ) (class A II).

δ 2. First pl. Second unpl. In first case st. was pl. as soon as perceived. Plre persisted for  
 β 3. α 1. some time after removal. Plre resided partly in Sn itself, partly in the idea of its faintness and fleeting character.—Second st. was unpl., almost from the first. The Unpls remaining  
 λ 1. at the same level during the d. of st. I noticed slight incipient tendencies for expiration and movement of lips, as if wanting to spit.

## Expt 45: T 5 (i.e.d. &lt; ) (class A II).

Second more unpl. In first slight Unpls which seemed caused by the rough and jerky character of Sn.—In second there were distinctly P. Sns, rapid pricks, which were unpl.,  
 θ 2. and the pressure Sn itself, which was also more unpl., although of the same character. In  
 β 3. addition there was an idea of the uncouthness and clumsiness of the Sn, which was also unpl.

## Expt 46: G 4 (1 and 3 drops) (class A II).

First Sn of cold which was pl. Taste Sn which was distinctly unpl.; as it reached back  
 γ 2. of mouth it was very bitter and very unpl. Involuntary movements that ensued seemed to relieve the Unpls.—Second Sn was much the same, except I seemed to recognize taste as bitter from start. In first st. the Unpls was of a different character in the first part  
 ε 2. when there was no bitter taste, than in the second part when there was a bitter taste. My attde was also different. In first part it was passive endurance, in second part there was a slight attde of resentment which seemed to find expression in the reflex movements.

## Expt 47: O 2 (i.d. &lt; ) (class A II).

Not much difference in f.t.s. First unpl. which seemed to rise very rapidly and then  
 δ 7. declined again to approximate indifference.—In second one f.t. rose more gradually but remained appreciably unpl. to the end. I had the thought of sickly.

## Expt 48: V 4 (i.d. &lt; ) (class A II).

No great difference. First was very slightly unpl. during greater part which seemed  
 α 2. α 1. connected with washiness of col.—In the second one there was at first slight Plre at greater  
 δ 7. α 2. brightness which gradually changed to Unpls as the col. seemed to become crude and vulgar.

28/10/15.

## Expt 49: O 4 (i.d. &lt; ) (class A II).

The second st. a good deal more unpl. The first st. was at first slightly pl., then as  
 δ 6. i. of Sn increased it became unpl., but rapidly faded.—The second one unpl. from start.

The Unpls rose rapidly until it became quite considerable and continued to rise still further much more slowly until towards end, when it began slowly to fall. Then fell rapidly  
 δ 6. together with Sn only to reappear in intense form after a few moments and again to die slowly away. I felt some nausea and I noticed movements of mouth and tongue as if for  
 γ 2. spitting, I think. It was also vaguely in C. that those movements tended to get rid of Sn in some way.

*Expt 50: T 4 (i.d.e. > ) (class A II).*

η 8. First more unpl. In first case violence of contact seemed to produce some fear which was violently unpl. Then I noticed very distinct P. Sn of short d., sharp pricking Sns, which were also unpl. Then the roughness and jerkiness of Sn was a third source of Unpls. The Unpls from the fear and that from the roughness seemed to be present at the δ 3. same time, to co-exist, at some occasions. But the P. when it occurred seemed almost to η 8. monopolize C. entirely for very short times. I rather think that towards end the fear gave η 9 & 1. place to slight irritation and anger, this was also unpl. At some time, I do not know whether during or after st., I had idea of clumsiness. I think this was connected somewhat with the irritation spoken of.—The second Sn was nearly as indifferent as possible, though δ 7. I did detect at one moment a very slight Pls and at another a slight Unpls. During ple- δ 4. sureable period the st. seemed to be gentle in comparison with previous one. In the unpl. period C. seemed purely spectacular. It was the Sn itself which was very slightly unpl.

*Expt 51: V 3 (i.d. < ) (class A II).*

The second one more pl. In the first case some slight Unpre connected with the fact that part of st. was in shadow. Then I concentrated attn on part not in shadow and I β 1. then experienced a slight Plre which seemed connected with the fact that I could now dis- δ 7. cern the col. clearly. Finally, experienced slight Unpre as the col. gradually came to appear somewhat crude.—Regarding the second st. there was at first a short period of adaptation during which f. seemed to be as nearly as possible neutral. Then the Sn became pleasure- α 1 & 3. able and Plre rose steadily until it attained a considerable height. It was particularly the a 1 & 3. brightness of the Sn which seemed pl. I also felt pl. org. and muscular Sns of a sthenic nature.

*Expt 52: T 3 (i.d.e. < ) (class A II).*

Second more pl. The first Sn very nearly indifferent. The first moment I noticed some surprise, which appeared indifferent. As this wore off C. became purely spectacular, the Sn seemed to be quite indifferent, I particularly noticed occasional sharp itching Sns, but these seemed not to have any definite f.t.—The second Sn: it was at first indifferent and δ 7. then the Sn rapidly became pl., attaining quite a high i. It seemed to be extremely soothing and gentle, and towards the end almost voluptuous. I noticed some disturbance of breath- α 3. ing, but I do not know what this was. There were distinct org. Sns of pl. f.t., but these never emerged from the background of C.

*Expt 53: A 3 (i.d. < ) (class A II).*

Very little difference, but perhaps second slightly more pl. The first one: I first attended to the initial hissing noise which was unpl., then the actual tone was slightly pl. and seemed to be of a reposeful character.—In the second st. at first some surprise at loudness. Then it became distinctly pl. and this Plre continued to end, but after a time I became aware of an unpl. element, the tone seemed to have a piercing character which was connected δ 4. with unpl. but vague Sns in the ear. The Plre and Unpre I am pretty certain, co-existed for a considerable time, though sometimes the Plre and sometimes the Unpre was the α 2. more prominent. The Plre seemed to be connected with the loudness and also with clear- α 3. ness and with the reposeful character which it possessed. The Unpre seemed to be con- nected with the piercing character and the Sns in the ear.

1/11/15.

*Expt 54: O 3 (i.d. < ) (class A II).*

First very slightly more pl. There is really very little f. in either. First: after perceiving

α 1. the first st. the Sn became appreciably pl., dying away gradually. The faintness of the Sn itself seemed to be pl. After the removal of st. I had the idea that the Sn still persisting was delicate. The Plre seemed to depend partly on that delicacy, partly on the  
 η 13 & 4. Sn itself.—The second case: the predominant feature was surprise and disappointment that the Sn was not stronger. It was the disappointment which carried the f.t. and which was slightly unpl.; the Sn itself seemed to be almost, if not quite, indifferent.

*Expt 55: G 3 (i. < ) (class A II).*

Second more unpl. First a Sn of cold very slightly unpl.; then the taste Sn itself at  
 α 2 first was very slightly pl. There seemed to be piquancy about it which was agreeable.

Then rapidly it assumed a disagreeable character, there seemed to be something sickly in  
 δ 9. it, but there were flashes of pl. f., which seemed to depend on the same piquancy noticed  
 δ 4. at first. Once or twice the two f.s seemed to be present simly, but only for very brief  
 moments, and this state always changed into one which was definitely unpl. The piquant  
 η 6. quality merging into the sickly one and this change of quality seemed to coincide with  
 development of an emotion of disgust. which had as its object partly the Sn itself and  
 partly myself as having been pleased with it. This cycle of occurrences was repeated  
 several times.—The second Sn was almost exactly the same as the first except that the  
 pl. f. was less marked and the unpl. f. more marked. Corresponding to this a less prominence  
 of the piquant and a greater prominence of the sickly quality.

*Expt 56: P 3 (i. < ) (class A II).*

(1st) The P. Sn arose rather slowly, some time after the tact. Sn, continued to rise  
 α 1. and with it the Unpls which soon attained a very considerable degree. I noticed very  
 marked org. and marked muscular Sns, e.g. holding breath and general tendency to  
 η 8 & 1. shrink, and a tendency to shout or cry out, also peculiar emotional state in which fear  
 and anger both played a part.—The second Sn: both the P. and the f. arose more slowly.  
 Fear more marked at first but disappeared towards the end, giving place to anger. Tend-  
 α 1. ency to shrink and cry out as before. The general f.t. very unpl.

*Expt 57: O 6 (i.d. < ) (class A II).*

First more pl. In the first case Plre arose very rapidly to a very considerable height, it seemed to be entirely sensational.—In the second one the Plre arose to begin but was  
 δ 7. not quite so great as in first case. As the Sn persisted the Plre rapidly declined and passed  
 β 3. into Unpls. This Unpls depended partly on the pure Sn quality and partly on the idea  
 that the Sn seemed to have become disgusting (not to a considerable extent).

*Expt 58: T 6 (i.d.e. > ) (class A II).*

First more unpl. In the first one the tact. Sn seemed to be unpl. in itself, and in addition  
 α 5. to this Unpls there was also Unpls accompanying P. Sns which shot up very frequently and attained a considerable height, they were of short d. I noticed tendency to shrink like that with the previous P. st., although less pronounced.—As regards the second st.  
 β 4. the Sn itself was unpl., but at the same time there was a f. of relief that it was lighter than  
 β 3. the first Sn. When the st. ceased there was added to this f. the thought that it was also shorter which was an additional source of Plre. There was a persistence of the thought of the first st. with which it was compared. The Plre of the thought that this was less  
 δ 4. intense (i.e. relief) co-existed with the Unpls of the actual Sn.

## Expt 59: P 2 (i.d. &lt;) (class A II).

θ 5. Second more unpl. As regards first one the P. again arose some time after pressure  
 η 2. which was completely indifferent. The C. was unpl. during this period owing to apprehension of the P. to come. Then the P. arose pretty quickly and rapidly became very  
 α 3. unpl. I noticed strong org. Sns, especially from the region of the neck and throat. These  
 were also unpl. As soon as the st. ceased I thought: "It is over and it was not very bad,"  
 β 3. and this thought was pl. This pl. thought co-existed with the gradually diminishing P.  
 δ 4. Sn. The P. at this stage was still unpl., so there was co-existence of Pls and Unpls. At  
 this stage the Pls predominated over the Unpls. I cannot give now an introspection on  
 δ 16. the second st. I quite definitely localized the f.t. in the spot where I experienced the P.  
 η 12. —I remember now about the second st. a passive kind of emotion, a sort of resignation.  
 The second was on the whole very much like the first.

## Expt 60: G 2 (1 and 2 drops) (class A II).

Second more pl. As soon as I definitely perceived the taste the Sn became markedly  
 pl., but on several occasions for short periods there seemed to be also an unpl. element,  
 δ 18. which seemed to be attached to a certain quality of the Sn. I think now there seemed to  
 be a sort of sourness, although I did not analyse it at the time. This Unpls when it ap-  
 δ 4. peared seemed to co-exist with the Pls, especially at the beginning and ending of its  
 coming. In the middle of these brief periods the Pls had almost quite disappeared. These  
 δ 7. periods were on several occasions followed by a brief period of more than usual Plre.—  
 The second Sn was very like the first, except that the Plre was greater, especially towards  
 α 3. the end. I noticed org. Sns which I did not do with the first st. I did not notice the con-  
 trast effect after the periods of Unpre. The periods of Unpre were much the same as in  
 δ 4. the first. Here also co-existences. I think the Plre was localized quite definitely in the  
 δ 16. back of the mouth, although slightly less localized towards the end. This was when the  
 δ 3 & 11. org. Sns became prominent. The Plre of taste and of org. Sns was sometimes not very  
 clearly separated, though for the most part they were fairly distinct.

5/11/15.

## Expt 61: A 6 (i.d. &lt;) (class A II).

Second more unpl. First: at first indifferent, then at one point it became markedly  
 δ 7. unpl., the Unpre dying away again.—In the second one there was Unpre almost from the  
 α 1. first of fairly intense character. At one point when the Sn became intense the Unpre  
 α 3. increased with it and became very marked. At this point I noticed unpl. org. Sns, generally  
 shrinking attde of the body and a curious unpl. Sn localized in the upper teeth, rather like  
 δ 3. teeth on edge. The Unpres from these sources were distinct and did not fuse, though in  
 some way I definitely looked upon the st. as the cause of all the Unpres.

## Expt 62: V 5 (i.d. &lt;) (class A II).

Second more pl. Very little difference though. At first the first Sn slightly unpl. and  
 δ 7. during this time it appeared slightly crude, then it became indifferent, then slightly pl. At  
 δ 15. this time I had a vague idea that green was the col. of Ireland. The Plre seemed vaguely  
 connected with this. I had the faintest possible image of some green garment. Towards  
 the end this faded away and the col. became as nearly as possible indifferent.—Regards  
 the second one, at first some surprise which was indifferent, then some Unpre because the  
 α 2 & 1. st. appeared unsaturated, then the brightness became prominent in C. and this was  
 δ 7. definitely pl., and the Plre from this source continued to the end but with slight inter-

ruptions when the want of saturation again became prominent with accompanying slight Unpre. This alternation occurred several times, but the periods of Plre were longer.

*Expt 63: T 1 and 2 (sim.) (class A III).*

Very little difference between f.t.s. Attn first attracted by 1. No. 1 produced a tickling Sn which was accompanied by a tendency to remove the hand. No. 2 then became the more prominent, this was pl. but lacked the piquancy of 1. The whole attde while attending to No. 2 seemed more spectacular. No. 1 then became prominent again, and the whole Su, including the pronounced tickle, seemed to bring about a pl. and unpl. f.  $\delta$  4. which co-existed. The pl. f. was the more prominent, but I could distinctly discern the  $\delta$  3. unpl. one. There seemed, however, to be an added Plre from this very Unpls, this Plre  $\gamma$  2. being connected with the tendency to remove the hand. Whilst attending to any one Sn the other was only in the fringe of C.

*Expt 64: O 1 and 2 (suc.) (class A III).*

The first more pl. As regards No. 1 it was at first indifferent, then Plre arose very rapidly to a moderate height. Attde quite spectacular.—The second also indifferent, then became unpl., the Unpre being fairly marked. I had the idea that the st. was nauseating  $\lambda$  1. (aud. image of the word nausea). I noticed incipient movements of mouth and tongue as  $\beta$  4. if for spitting. Relief when st. was removed.

*Expt 65: A 1 and 2 (suc.) (class A III).*

No. 1 slightly more pl. No. 1 at first indifferent, then very rapidly became pl. to quite  $\alpha$  2. a marked extent; it was particularly the quality of repose with which the Plre was associated. The Plre in the st. was accompanied by a pl. mood of a reposeful character and  $\alpha$  3. characterized by markedly pl. org. Sns mostly in the abdomen. The Plre of these Sns was  $\delta$  3.  $\delta$  16. well located and quite distinct from the other Plres, though it co-existed with them.  $\delta$  11.  $\xi$  3. The Plre of the mood and of the aud. Sn seemed to a great extent fused. The interval  $\delta$  6. between the two stimuli was unpl., chiefly owing to the cessation of the st. and the accompanying mood.—The beginning of No. 2 was accompanied by a pl. relief. The Sn itself then became pl. and after a little time quite markedly so. Then I felt a vague discontent which gradually merged into the thought that this st. was less reposeful. This discontent  $\xi$  3.  $\delta$  4. persisted to the end and was unpl. and co-existed with Plre from the actual Sn.

8/11/15

*Expt 66: V 1 and 2 (suc.) (class A III).*

Second more pl. The first definitely pl. from start until I noticed a small amount of  $\kappa$  1. dust on paper. This seemed to be an impurity and was unpl. I consciously endeavoured to neglect this and the total state became pl. again. The col. seemed to be of a reposeful  $\xi$  1.  $\alpha$  3. character which induced a corresponding mood in myself. Pl. org. Sns of a diffuse character, particularly prominent in the region of the chest.—In the second case there was also Plre from the start, a mood was induced much the same as that accompanying No. 1, except there was more energy about it. I had the thought that No. 1 was gloomy compared  $\beta$  4. to this and No. 2 then seemed even more pl. by contrast.

*Expt 67: T 2 and 6 (sim.) (class A III).*

No. 2 pl., No. 6 unpl.: No. 2 first dominated in C., then No. 6, then for a considerable time they were equally prominent, perhaps No. 6 slightly predominating. The f.t. fluctuated  $\delta$  9. in a manner corresponding to the fluctuations in C. of the Sns. During the period of comparative equality I distinctly experienced the Plre of No. 2 and the Unpre of No. 6  $\delta$  4. at the same time. At the end No. 6 became again distinctly predominant and the pl. f. of  $\delta$  5.  $\iota$  1. No. 2 vanished, but it came up again in connection with a very strong primary memory

image. No. 2 seemed to be soothing and caressing with a very slight element of tickle,  $\delta 16$ . No. 6 was thought of as crude, rough and brutal. The f.t.s were both very *distinctly localized* on the respective hands.

*Expt 68: O 2 and 6 (suc.) (class A III).*

No. 2 slightly pl., No. 6 on the whole indifferent: No. 2 was pl. from the beginning. I adopted at first a spectacular and then a somewhat critical attde towards it. During this  $\beta 2$ , second phase the Sn seemed to me somewhat crude and I felt pleasantly tolerant towards  $\beta 4$ . the Sn which did not lose much of its Plre.—No. 6 was at first slightly unpl. in contrast with No. 2 with which it was definitely compared, then I adopted a purely spectacular attde and the Sn became almost indifferent and remained so to the end, though occasionally there were very short periods during which it appeared just perceptibly pl. or unpl.

*Expt 69: A 2 and 6 (sim.) (class A III).*

No. 2 pl., No. 6 on the whole slightly unpl.; No. 2 was to begin with most predominant in C. and seemed to be somewhat reposeful. Afterwards it retired rather to the background  $\delta 6$ , but remained definitely pl. the whole time, the f.t. becoming correspondingly less marked.

No. 6 first unpl., the Unpre being not so much in the Sn itself but in the fact that it interfered with the enjoyment of No. 2. In the intervals between the squeaks there was a  $\beta 2$ , waiting attde which was distinctly unpl. Once or twice No. 6 became definitely pl. When  $\delta 15$ , this was the case it reminded me of the twitter of birds. Once at least it became quite definitely unpl., the Unpre being chiefly due to the Sn, partly also to an involuntary  $\alpha 3$ , shrinking with marked muscular contractions. I am not certain about the co-existence of f.t.s because during the greater part of the expt No. 2 was so much in the background of C.

11/11/15.

*Expt 70: V 2 and 6 (suc.) (class A III).*

No. 2 more pl.; No. 2 pl. from beginning, Plre decreased and turned into slight Unpre  $\beta 5$ , as the col. seemed a little crude, but this impression of crudity wore off and the Sn became pl. again and continued so until the end rising slightly in i.—No. 6 unpl. at first, very slight  $\delta 18$  &  $\delta 15$ , emotion of disgust. Now I am not absolutely certain about this, the emotion of disgust  $\eta 6$ , was there first and then the col. became slightly disgusting or dirty. This emotion and corresponding idea about the col. gradually vanished from C. and at the same time the accompanying Unpls until a state of almost complete indifference was reached. I then  $\beta 3$ ,  $\delta 15$ , thought the col. was like khaki and I had a very vague thought that khaki, and therefore this col., is useful. At this point the Sn was very slightly pl., but this Plre faded and a state of indifference came back.

*Expt 71: T 3 and 5 (sim.) (class A III).*

No. 3 more pl.; No. 5 first attracted attn and was slightly unpl., then the attn wandered to 3. but the f.t. was very little marked. it was almost indifferent, if anything slightly pl. There followed a period with rapid oscillation of attn. No. 5 on the whole predominating,  $\delta 7$ . The f. of No. 5 fluctuated from slightly unpl. to slightly pl. No. 3 continued to be indifferent  $\delta 9$ , or else very slightly pl. The prominence of the f.t.s fluctuated in a manner corresponding to the fluctuation of the Sns. Then came a brief period during which both Sns were equally  $\delta 16$ , prominent each with its own f.t. well localized. I could distinguish the f.t. although there  $\delta 3$ , was very little difference between them as regards Plre and Unpre, both being slightly  $\alpha 2$ , pl. No. 5, however, was rough and bracing. No. 3 soothing, and these qualities seemed to produce difference in the respective f.s as well as in the Sns themselves. Then No. 3 became distinctly more prominent and it became more pl. on the whole, though it also contained  $\delta 4$ , an element of Unpls which co-existed with the Plre. The Unpls was somehow connected  $\alpha 2$ , with the "sliminess" of the Sn.

*Expt 72: O 3 and 5 (suc.) (class A III).*

No. 3 pl., No. 5 unpl.: No. 3 was pl. from the first, attde purely spectacular. I noticed  
 ε 3. fairly violent fluctuations in i. of f.t.—No. 5 at first moment indifferent and the Unpls  
 η 6. arose very rapidly. I experienced the emotion of disgust and noticed a fairly marked muscular contraction about nose and mouth and less marked over whole body. The Unpls was  
 δ 16. localized in the nose but the disgnt had as its object the bottle or the beastly object.  
 λ 1. There was also the tendency to move away from st. and there was some inhibition of this.  
 β 2. I was vaguely aware that I had to smell this for the sake of the expt. This inability to  
 γ 2. move away from the st. was also unpl., but I cannot say that this Unpls was localized anywhere.

12/11/15.

*Expt 73: A 3 and 5 (sim.) (class A III).*

No. 3 more pl.: at beginning the two Sns were hardly distinguished one from another in C. Then they seemed to be together but distinct. No. 3 was pl., but the f. of No. 5 was not always distinct. There seemed to be the f. of No. 3 and then an additional f. of  
 α 4. "No. 3 + No. 5." During the whole time there was a considerable excitement which rather  
 η 7. overshadowed the real f. (Ple-Unpre). This excitement was referred, projected, to the two st. together, but more particularly to No. 5. Occasionally No. 5 did become definitely  
 δ 15 unpl., but only for short moments. Also once or twice it was pl., though this Pls seemed to depend intimately on the excitement.

*Expt 74: G 1 and 2 (sim.) (class A III).*

No. 1 more pl.: at first the coldness of No. 2 slightly unpl., then the taste became moderately pl. and the Ple was increasing when attn was directed to the rising Sn of the chocolate (No. 1). The chocolate soon became pl., more so than the syrup and then ensued a series of rapid fluctuation of attn to the two Sns. The predominance of the f.s followed  
 δ 9. α 4. the fluctuations in C. of the Sns. Then the two Sns became fused and a new Sn was produced which was slightly unpl. Then for a brief moment No. 2 became prominent again  
 δ 4. and was pl. upon a background of unpl. fused Sns. After this the fused Sns gradually gave place to the pure chocolate Sns, the f. changing from unpl. to pl. The Sn of the syrup had quite vanished.

*Expt 75: T 1 and 6 (sim.) (class A III).*

No. 1 pl., No. 6 unpl.: No. 6 had for the greater part of the time a much larger share of attn than No. 2. During the greater part of the time No. 1 was in the background and had a constant but not intense pl. f. No. 6 was occasionally pl., but the greater part of the time it was unpl. It seemed sometimes bracing, at other times rough and brutal, also  
 α 2. clumsy. I think, I am not quite sure, the bracingness tended to coincide with the Pls and  
 θ 5. the roughness with Unpls. Besides the pressure Sns there were from time to time Sns of P.  
 δ 16. which were distinctly unpl. The Pls and Unpls was clearly localized in both cases. At the  
 δ 9. end No. 1 came more strongly into C. and its Ple increased while No. 6 and its Unpls  
 δ 4. decreased. At this point the Ple and Unpre were distinctly present simly in C.

*Expt 76: O 6 and 1 (suc.) (class A III).*

No. 6 more pl. (sic): No. 6 was pl. from the first and the Ple remained at a constant height. Attde was quite spectacular.—No. 1: There was an appreciable interval between the entrance of Sn into C. and the appearance of any f. When the f. did come it was pl., but the Ple was fairly slight. There was also present in C. some disappointment at the  
 α 1. η 4. faintness of the st. This disappointment was slightly unpl. and co-existed with the Ple  
 δ 4. of the Sn.

## Expt 77: V 1 and 6 (suc.) (class A III).

No. 1 pl., No. 6 unpl.: No. 1 at first markedly pl., then Plre decreased and I thought  
 a 2.  $\beta$  3. the col. was a little "washy," but this thought vanished and the col. became more pl.  
 $\eta$  7. a 3. again. There was a certain amount of excitement and muscular tension which was also  
 pl. I do not know whether these Pleasantnesses were fused or separate.—No. 6 unpl.  
 $\delta$  10. f. fluctuating in i., once or twice it became slightly pl., many vague ideas that the col.  
 was disgusting and dirty.

## Expt 78: T 2 and 3 (sim.) (class A III).

Both equally pl.: attn on the whole fairly evenly divided, though there were slight  
 $\delta$  9. fluctuations, sometimes the one, sometimes the other predominating. The f.s fluctuated  
 in a manner corresponding to the fluctuations of the Sns. Both were extremely pl. and  
 a 3. both seemed voluptuous in nature. I noticed pl. org. Sns, but these were only in the back-  
 $\delta$  16. ground. The Plres of the two Sns were fairly well localized, being separate and sim. in  
 $\delta$  3. C., though at moments there seemed to be a tendency to fusions of the two Plres. These  
 moments coincided with brief relaxation of the attn.

15/11/15.

## Expt 79: O 2 and 3 (suc.) (class A III).

No. 3 slightly more pl.: No. 2 at first pl., then there came into C. an unpl. quality which  
 superseded the Pls. I thought it was sickly and I noticed muscular Sns from forehead,  
 $\delta$  4. mouth and nostrils. For brief intervals the Plre returned once or twice and co-existed with  
 the Unpre, though the latter was much the stronger. Both Plre and Unpre, especially  
 $\delta$  16. the Unpre, were localized in the nose and rather Unpre higher up in the nose.—No. 3:  
 the attde was spectacular throughout. It was pl. from the start and remained at a con-  
 a 1. stant level. The Pls seemed partly connected with the feebleness of the Sn, and was partly  
 dependent on the sensory quality itself. There was, however, at one time a very slight  
 $\eta$  4.  $\delta$  4. emotion of disappointment which was very slightly unpl. This Unpls co-existed with the  
 Pls but was not held very distinctly apart from it, both the Pls and the Unpls seemed to  
 $\delta$  13. combine into a total state which was predominantly pl. There was no neutralization.

## Expt 80: A 2 and 3 (sim.) (class A III).

Both equally pl.: Attn first turned to No. 2, which was distinctly pl. Then 3 rushed  
 $\eta$  13. into C. and there was surprise and expee of shock which was distinctly unpl. During  
 this period I did not distinguish between the two Sns nor their f.t.s. The shock gradually  
 passed off and there ensued a short period of indifference. Then there was a period in which  
 attn fluctuated from one Sn to the other though both were continuously in C. The f.t.s  
 $\delta$  9. of both Sns were now pl. and fluctuated in a corresponding way. Once or twice there was  
 $\delta$  11. a period of comparative fusion of the two Sns and a corresponding fusing of the f.s. Towards  
 the end there was a brief period during which both Sns and their f.s were approximately  
 $\delta$  3 & 16. equally clear in C. and quite distinct. The f.s were not localized. Also at one time there  
 $\xi$  1. was a slight mood of repose accompanied by pl. org. Sns.

## Expt 81: V 2 and 3 (suc.) (class A III).

Both appear indifferent, or slightly pl.: No. 2 at first pl., then I noticed dark patches  
 which were unpl., then attn went to the light parts again and the col. seemed slightly  
 $\beta$  2. crude, this was also unpl. Then attde became more spectacular and the col. gradually  
 became pl., though only slightly so.—No. 3 was at first pl. and then I experienced a vague,  
 vis. image of a girl I had seen yesterday wearing a coat of that col. This distracted attn  
 $\delta$  7.  $\iota$  1. from the Sn. The image was at first pl., then, as it began to fade, slightly unpl. Then I  
 $\beta$  3. had the thought I ought to attend more to the Sn; this thought was slightly unpl. Then

§ 2. 1. gradually attde became spectacular and Plre arose. The image persisted in background of C. and was also slightly pl.

*Expt 82: T 1 and 3 (sim.) (class A III).*

Both entered C. simly. Attn then went predominantly to No. 1, then to No. 3 and § 9. then was divided equally between the two. Both were equally pl. The f.s fluctuated in a similar way, both being about equally pl. The f.s were for the most part localized in § 16.±. their respective hands, though there were moments when the f.s were less distinctly localized and not so sharply separated in C. These periods coincided with a less sharp § 11. differentiation of the Sns, though the tendency to fusion was more marked in the ease of the f.s than in the ease of the Sns.

17/11/15.

*Expt 83: G 1 and 4 (sim.) (class A III).*

No. 4 unpl., No. 1 slightly pl.: No. 1 first gave mere indifferent pressure Sns; No. 4 was then felt as cold, slightly unpl. For a long period the two Sns co-existed, sometimes one sometimes the other being more prominent, but during the greater part of the time their prominence was nearly equal, No. 4 very slightly predominating. As regards f.s the § 4. unpl. coldness of No. 4 at first co-existed with the indifference of No. 1. Then No. 1 seemed to get slightly warm and became pl., gradually the coldness of No. 4 became less prominent and changed into a definite taste quality. It remained unpl. the whole time, the Unpre § 1. β 4. increasing as the taste became more intense, the Plre of No. 1 simly becoming slightly δ 4 & 16. greater. The Unpls and Pls co-existed quite clearly and were localized in the respective places as the Sns. Gradually No. 1 began to give some taste and this increased the Pls of No. 1. I swallowed at this point and No. 4 became much more unpl. and bitter and occupied the larger part of C. From time to time No. 1 flashed up into C. and was then more β 4. pl. than before. The Sns and f.s alternated at this point.

*Expt 84: P 1 and 2 (sim.) (class A III).*

No. 2 more unpl.: Attde very passive and spectacular, except at beginning when there § 3. was slight tendency to withdraw the hands. The two Sns and their respective f.s co-existed δ 9. in C. throughout the whole period, though there were fluctuations in their respective intensities. The i. of the f. always corresponded to the clearness of the Sn. The f.s of both δ 16. were localized and quite distinct and for a considerable period they were present together in approximately equal i., No. 2 being slightly more unpl. There was c. f. of the fact that No. 2 covered a much larger area and was localized more deeply: No. 1 was sharp and pointed, a prick Sn, No. 2 was dull and "aching." The spacial attributes, and the being "deep" and cutaneous respectively, played a great part. The moments when the two κ 1. Sns and their f.s were held most clearly apart and most clearly co-existed were the moments of highest attn.

18/11/15.

*Expt 85: T 5 and 6 (sim.) (class A III).*

No. 6 more unpl.: At first both were cold and slightly unpl. Then both became predominantly tact. in character and slightly pl., somewhat soothing. During this time attn sometimes fluctuated, but both were in C. with nearly equal clearness during greater part of the time. As soon as movement began both became unpl. and rough in character, and attn fluctuated more violently and rapidly. From time to time sharp P. Sns arose which were very unpl. These P. Sns were more intense with No. 6. Whenever such P. Sns arose the corresponding st. received the greater attn, the other being quite in the background κ 2. of C. During periods of appreciable length when there were no such P. Sns the stimuli

were much less unpl. and attn was much more evenly distributed between them. The  $\delta 16$  & 3. tact. and P. Sns were clearly localized and also the f.s belonging to them. The simultaneity of the f.s agreed very closely indeed with that of the Sns.

*Expt 86: A 5 and 6 (suc.) (class A III).*

$\delta 10.$  No 6 more unpl.: No. 5 continuously unpl., though the i. of the Unpls fluctuated very  $\alpha 3.$  much. There were also unpl. org. Sns which remained in the background.—No. 6 extremely unpl. The Unpls was always high but occasionally became very intense. I noticed  $\lambda 1.$  incipient movements of head and limbs, violent Sns from the neighbourhood of the eyes.  $\delta 11.$  I think that all these Sns were unpl., but the Unpls did not seem at all distinct from that of the and. Sns.

*Expt 87: G 3 and 4 (sim.) (class A III).*

$\delta 7.$  At first both cold and very slightly unpl. Then the coolness became pl. During this time it seemed as if the two Sns were sometimes quite distinct and sometimes fused. The period of comparative fusion coincided with relaxed attn. I then began to notice a definite taste quality in No. 3. This was unpl. and co-existed with indifference of No. 4, though during the greater part of the time No. 3 was much more prominent. No. 3 then acquired  $\theta 1.$   $\delta 7.$  a burning character which seemed more P. than taste; this was at some time pl., but afterwards became unpl. again. No. 4 was during this time in the background. No. 4 then in turn began to acquire the gust. quality and to become more prominent. Its taste was at first indifferent, then unpl., then seemed to acquire a new character and for a short time was pl. At this point I wondered which of the stimuli it was, as they were no longer very distinct. Then as I swallowed I recognized it definitely as No. 4, No. 3 being in the background of C. and very slightly unpl. No. 4 underwent another change of quality, was  $\lambda 1.$  recognized as bitter and became violently unpl. Muscular Sns from head and neck which  $\beta 4.$  without being themselves pl. seemed somewhat to relieve the Unpls of No. 4. No. 3 was all this time in the background of C. and approximately indifferent.

*Expt 88: T 2 and 5 (sim.) (class A III).*

No. 5 very unpl., No. 2 pl.: At first attn was distributed equally between both and both  $\delta 3.$  were slightly pl., the two Pleasantnesses being sim. As soon as movement began No. 5 became definitely unpl., whilst No. 2 became more pl. For the most part No. 5 was more  $\theta 5.$  prominent in C. than No. 2. No. 5 sometimes gave a succession of pressure Sns which were somewhat unpl. and sometimes rather violent P. Sns which were extremely unpl. P. of a prick-like character which rapidly rose to very high i. and then suddenly and completely vanished. During the majority of these P.-periods No. 2 practically vanished from C. to reappear as soon as the P. had stopped. During the pressure periods  $\delta 4.$  No. 5 and No. 2 co-existed and also their respective Plres and Unplres which were fairly  $\delta 16.$  clearly localized. Towards the end I made a voluntary effort to keep No. 2 continuously in C., but in spite of this effort it vanished completely at the moments of P. Sns.

*Expt 89: A 1 and 5 (sim.) (class A III).*

No. 1 pl., No. 5 unpl.: No. 1 at first pl., then it seemed to have an empty character which was slightly unpl. it became pl. again, however, as soon as it was placed on the  $\alpha 2.$  resonator. As soon as No. 5 began it was unpl. partly on account of its rough character  $\delta 15.$  and partly because it interfered with the hearing of No. 1. At times No. 1 as a Sn was quite out of C., although I was always on the look out for its reappearance. When it did reappear there was a period during which both Sns were equally in C., although No. 5 was the more intense. No. 1 was definitely pl. and No. 5 definitely unpl. This was a  $\kappa 1.$  period of alert attn. At the end No. 5 became more prominent again and No. 2 with its f. was quite in the background of C.

19/11/15.

*Expt 90: T 3 and 6 (sim.) (class A III).*

No. 3 pl., No. 6 unpl.: Attn first went to No. 3 which was distinctly pl., then to No. 6 which was slightly unpl., No. 3 being now nearly out of C. As soon as movement began there was a fairly rapid alternation in the relative predominance of the two Sns, in fact they were both present to C. throughout. No. 3 remained pl. throughout and No. 6 unpl. No. 3 was of a soothing character. No. 6 was rough and at times gave rise to distinct P. Sns of short duration. These P. Sns were distinctly unpl., and at the moment of their occurrence No. 3 faded very much into the background of C. The nearest approach to equality of predominance of the two Sns was during the change of the direction of the movement of No. 6. The i. of the f.s corresponded throughout to the relative clearness of the Sns, both f.s were distinctly localized in the respective hands.

*Expt 91: P 1 and 3 (sim.) (class A III).*

No. 3 more unpl.: No. 1 entered C. first and was distinctly unpl., then No. 3 entered C. with a rush, somewhat driving out No. 1. No. 3 rapidly became very unpl., but No. 1 soon came back again into comparatively clear C. and was still unpl. The two Unpleasantnesses co-existed. When they were equally in C. No. 3 was distinctly more unpl. but in general the i. of the f.s varied directly as the i. and clearness of the Sns. At one point the clearness of the two Sns was about equal, but Sn No. 3 was much more intense and at that moment the Unpls of No. 1 very considerably declined while No. 3 was intensely unpl. Both f.s were well localized. No. 1 was a prick-like P. and No. 3 an ache-like P.

*Expt 92: T 2 and 4 (sim.) (class A III).*

No. 2 pl., No. 4 on the whole indifferent or very slightly pl.: No. 2 first entered into C. and was immediately extremely pl., there was something voluptuous about it. No. 4 then also entered into C., and it was at first unpl., during which time No. 2 was in the background of C. but still pl. There then began a long series of fluctuations in the relative predominance of the two Sns. Both Sns, however, were continuously in C. and there were moments when they were equally in C. The predominance of the relative f.s corresponded very closely throughout to that of the Sns, No. 2 was always very pl. No. 4 was sometimes very slightly unpl., sometimes slightly pl. Once or twice I definitely compared the two f.s and found No. 2 much more pl. and No. 4 still pl., rather than unpl. The f.s were localized.

22/11/15.

*Expt 93: G 2 and 4 (sim.) (class A III).*

At first I perceived both as cold which was slightly unpl. After the first moment the two Sns were, as a rule, not very distinct. The taste Sns were at first both indifferent and then gradually became slightly unpl. I was aware of two different Sns coming from different parts of the tongue but the f.s did not seem to be distinct, there was one f.t. for the two, and this was slightly unpl. This Unpl gradually increased and then suddenly I felt a very considerable Unpl now definitely localized on the left of the tongue. The taste Sn at this point was largely complicated by a burning, pricking Sn, and it was this that was so very unpl. Then I became aware at the same time of a different Sn more to the right. This Sn was pl. and it was recognized as sweet. The Plre rapidly increased together with this Sn in C. till the sweet and its accompanying f.t. was much clearer than the bitter. Then it declined again and for a brief moment they were equally intense, the one pl., the other unpl. Then bitter became more prominent, though sweet persisted in the background and was pl. Then the two Sns fused, giving rise to a new quality which was distinctly unpl. Finally, there suddenly arose a very intense bitter Sn that was extremely unpl. From time to time during this last stage there were flashes of sweet or mixed Sns.

δ 4. These, too, were now indifferent or slightly unpl.; whilst the two Sns co-existed their f.t., when they were of opposite quality, co-existed also.

*Expt 94: P 2 and 3 (sim.) (class A III).*

No. 3 more unpl.: No. 3 first perceived. At first it was only a tact. impression which was indifferent. Then a P. Sn arose which was very unpl. No. 2 was then perceived but was more or less indifferent. No. 2 then became gradually more unpl. and the two Unpleasant-

δ 3. θ 1. nesses co-existed, though from time to time No. 2 would become indifferent again. At these moments No. 3 was more than usually unpl. No. 3 was usually more prominent in C. as was also its f.t. Only on one occasion did No. 2 become more unpl. No. 2 seemed to be a much deeper and duller P., but No. 3 was sharper and better localized. When attn went principally to No. 2 I found myself adopting a passive patient attitude towards it. No. 3 seemed much more intolerable and I had to inhibit the tendency to move the hands.

δ 16±. At the end of the expt there was a period when the two Sns were much less definitely localized and at this point the f.s also ceased to be localized or held distinct from one another.

δ 11. There was now only one f. of Unpls very vaguely localized somewhere in the front part of the body.

*Expt 95: V 1 and A 1 (class A IV).*

A more pl., I think: Both A and V were pl. from the beginning. The Phre arose in both cases during the first sec. and then remained at a fairly high level. I noticed a continual δ 9 and fairly regular oscillation of attn from one Sn to the other, the predominance of the f. fluctuating in a similar manner. The two Sns were seldom or never of anything like equal δ 16. clearness in C. at the same moment. The f.s seemed to be localized to some extent in the resp. stimuli. The i. of the total f. did not fluctuate and was much the same whether the δ 3. aud. or vis. Sn was predominant. Besides the sensory Phre there was a mood of a reposeful character which was definitely pl. and which was unaffected by the oscillation. There δ 1. were also continuously present weak but widespread org. Sns which seemed to be intimately connected with the mood.

*Expt 96: T 6 and O 6 (class A IV).*

Both slightly unpl.: The olf. was slightly pl. at first but soon acquired a somewhat sickly character which was unpl. The tact. was unpl. from the first. There occurred an δ 9. oscillation very similar to that of the last case, but there were one or two very brief moments in which the two Sns were of approximately equal clearness. The Unpleasantnesses of δ 16. both were definitely localized throughout, one in the nose the other on the surface of the δ 3. hand and the two Unpleasantnesses were quite distinct throughout

25/11/15.

*Expt 97: G 2 and P 2 (class A IV).*

G first cold and slightly unpl., as taste developed it became decidedly pl. At this moment I first perceived the P. which was unpl. from the start. Then ensued a continuous but rather slow oscillation of attn between the two Sns. They were both in C. the whole time and both maintained throughout their respective f.s. The clearness and i. of the f.s δ 9. fluctuated simly with that of the Sns. For brief moments the two Sns and their respective δ 4 & 16. f.s were about equally prominent in C. Each f. was distinctly localized.

*Expt 98: T 5 and A 6 (class A IV).*

Both unpl.: The tact. became painful. There was a rapid oscillation of the attn between the two Sns and very little if any co-existence in C. except once or twice when the usual painful accompaniments of the tact. st. were absent. The unpl. f. of the P. Sn was very δ 16. distinctly localized and seemed to be on the extreme outer surface of the skin, very sharp

pricking P. extremely unpl. It rose very quickly to a high i. and then just as quickly  $\theta 5.$  dropped out of C. The tact. Sns were for the most part only present in C. when P. was absent and were then slightly unpl. They were localized more deeply than the P. The aud. st. was more unpl. than the tact, but not quite so unpl. as the P. During the periods of attn to the aud. st. there was an unpl. Sn in the ears, particularly the right hand one,  $\alpha 3.$  and in the head. This seemed partly and not wholly to come from the region of the eyes  $\lambda 1.$  and the forehead and to be occasioned by movements of these parts. There were also more general movements of shrinking. All these Sns were sometimes recognized as unpl., their  $\delta 3 \& 11.$  Unpls being then distinct from that of the aud. Sn, but more often the f.s of the aud. and  $\delta 16-.$  the bodily Sns were more or less fused. The f. attached to the aud. Sn was not localized.

*Expt 99: O 4 and V 3 (class A iv).*

V slightly pl. O very unpl.: For a long period at the beginning the two Sns were present together in C., the relative predominance remaining comparatively unchanged. The olf. was a good deal more prominent and was decidedly unpl. The vis. was at first as nearly as possible indifferent. After this there was a period with moderately rapid oscillation of the attn between the Sns, though, I think, they were both continuously present to C. The f. of the vis. now became slightly pl. especially when I attended to the brighter parts.  $\delta 9.$  The f.s of both Sns fluctuated with the Sns themselves. The olf. Sn continued to be very  $\delta 16 \pm.$  highly unpl. throughout and was vaguely localized in the nose. The f. of the vis. Sns did not seem to be localized.

26/11/15.

*Expt 100: T 4 and G 4 (class A iv).*

G first cold. At first slightly unpl. then slightly pl. Very gradually the taste Sn began to develop. First it was indifferent, then slightly unpl. The Unpls gradually increased in i. At this point I first perceived the tact. st. For the greater part of the time it fluctuated with the gust. Sn, first one then the other being the more prominent in C.; but both being continuously in C. except for two very brief moments when the tact. gave place to a P. Sn. At these moments the gust. Sn quite disappeared. The P. was very unpl., shooting and localized in the extreme outer surface of the skin. The tact. Sn was sometimes unpl., the Unpls being connected with its harsh and rough character. Sometimes it was indifferent.  $\epsilon 3.$  The periods of indifference occurred when attn was chiefly devoted to the gust. Sn. The  $\delta 9.$  gust. Sn was unpl. throughout, though the i. and clearness of the Unpre was proportional  $\delta 16.$  to the clearness of the Sn. it was localized on the tongue, but towards the end the localization  $\lambda 1.$  became less exact. At this time I noticed movements of the head and mouth which were more or less involuntary, but which seemed the natural expression of the gust. Unpre.

*Expt 101: A 4 and P 2 (class A iv).*

Very passive and spectacular attde during the greater part of the time. The attn fluctuated very slowly between the two Sns and they were both continuously in C. For the most part the attn was distributed fairly evenly between them. The one or the other always predominated slightly. The P. was for the most part slightly unpl. At one time  $\theta 5.$  the P. as such ceased altogether leaving only a tact. Sn. This tact. Sn was slightly pl.,  $\beta 4.$  though the Plre seemed intimately connected with the relief from the P. The P. itself was of a deep aching character. The aud. Sn was sometimes slightly pl. During these periods it induced a reposeful mood and the st. itself seemed thin and distant. At another  $\eta 9.$  time the Sn was very slightly unpl. At this time it seemed to have a slightly irritating  $\delta 11.$  character. The Unpre from the aud. Sn was at one moment to some extent fused with  $\eta 1.$  that from the P. Sn and I experienced anger against both the stimuli regarding them

somewhat as two parts of a whole, both of them being part of a general scheme to annoy  
 δ 3. me. At other times the f.s from the two Sns were quite distinct. The f.s of the aud. Sn I  
 δ 16 – . could not localize.

*Expt 102: G 2 and O 2 (class A iv).*

Gust. gradually became pl. and when it was appreciably pl. I first perceived the olf. Sn. There was some big oscillation of attn, at other times attn was fairly evenly distributed between the two Sns. When the gust. Sn predominated it was very distinctly pl. and the  
 δ 8. olf. was either indifferent or very slightly unpl. When the olf. predominated the gust. Sn remained slightly pl. while the olf. itself was either indifferent or unpl., on one occasion  
 δ 16. very distinctly unpl. The gust. f. was localized on the tongue, the olf. f. more vaguely in the nose.

*Expt 103: V 1 and P 2 (class A iv).*

Both Sns in C. the whole time. Attde was very passive throughout. The vis. was pl. throughout. It seemed restful and soothing. This Pfre was more marked when the vis. Sn  
 ε 3. κ 1. was receiving greater attn, but the Pfre changed only in i. and not in character. This Pfre  
 μ. seemed in some way to compensate for the P. and to make it more tolerable. The P.  
 δ 9. ε 3. itself fluctuated in i. and also in Unpls, sometimes it was the more predominant of the two  
 α 1. Sns, and yet was less disagreeable than at other times when it was less predominant.

But I think the Unpls corresponded closely to the i. of the Sn. Towards the end the P.  
 β 4. grew gradually more severe, but at the same time the Pfre of the vis. Sn also became  
 δ 4. greater. Finally, both f.s co-existed at a fairly high i. The vis. Pfre seemed connected to  
 α 3. some extent with vague and diffuse org. Sns, and was itself vaguely if at all localized.  
 δ 16. The Unpre of the P. was distinctly localized in the hand.

29/11/15.

*Expt 104: V 1 and P 2 (class A iv).*

Fairly steady though rather slow oscillation of attn between the two Sns, though both were continuously in C. The vis. Sn was at first indifferent, then became distinctly pl.  
 δ 5. The P. was always unpl. and on one or two occasions the P. ceased and only tact. Sn remained. This was either indifferent or at least on one occasion slightly pl., as it seemed  
 ε 3. β 4. a relief from the P. The Unpls of the P. fluctuated in i. and clearness in a way corresponding  
 δ 9. to the fluctuations of the clearness of the P. Sns. Similarly the Pfre of the vis. Sn. In  
 α 3. moments when the vis. Sn was most prominent I noticed org. Sns which were also pl. and these Sns were chiefly in the epigastric region and the back of the throat. The P. was  
 δ 16. ±. distinctly localized and its Unpls also, but the Pfre of the vis. Sn was not localized. The  
 δ 4. f.s clearly co-existed though they were not always of the same strength.

*Expt 105: V 1 and T 1 (class A iv).*

Attn fluctuated more irregularly than last time and I think both Sns were continuously in C. though both of them came at times nearer to extinction than in the last expt. Sometimes there were fairly long periods in which they were both equally in C. Both the Sns were pl. except perhaps when they came near to extinction when the f. seemed to vanish.  
 δ 3 & 16. The two Pfre co-existed and the tact. one was definitely localized. I also noticed slightly  
 α 3. pl. org. Sns. It seemed as if some of these were called up by the tact., others by the vis.  
 ε 2. Sn, but I was unable to separate them. I cannot find any difference in the two f.s, except  
 δ 9. one of i. This i. fluctuated in a manner corresponding to the fluctuation of the Sns as on previous occasions. When I tried to discover whether there was any qualitative difference between the two Pfre I immediately came across some sensory element, some quality of the vis. Sn, of the tact. Sn, or the org. Sn.

*Expt 106: A 5 and G 4 (class A iv).*

Attn wandered slowly from one Sn to the other. For a considerable part of the time it was fairly evenly distributed between them. The taste was always unpl. Towards the end extremely so. The sound was for the most part indifferent, sometimes very slightly pl., at other times slightly unpl. When it was pl. it seemed somehow to be a relief from the Unpls of the taste which was then in the background of C. When it was unpl. it seemed  $\alpha 3.$  to be harsh and rough. There were at times fairly widespread org. Sns which I connected chiefly with the taste Sns. Also the tendency to shake the head violently. I think that  $\gamma 2.$   $\lambda 1.$  towards the end I actually did make small head-movements and that they were slightly  $\beta 4.$  pl. They seemed to be a relief from the taste itself. In this case the Plre and the Unpre  $\delta 4.$  of the org. Sns co-existed though in very different intensities. Likewise the Plre and the  $\epsilon 2.$  Unpre of the stimuli. Again I could not discover any qualitative difference in the f.s  $\delta 16 \pm.$  themselves, when they were of the same sign. The taste Unpre was localized, the and. not.

*Expt 107: O 6 and P 1 (class A iv).*

The P. was always unpl. as long as there was P. Sometimes the P. vanished and there  $\theta 5.$  was only touch left. This was as nearly as possible indifferent. The olf. Sn varied very much as regards f., it being sometimes pl., sometimes distinctly unpl. The fluctuations were so rapid sometimes that it seemed once as if both were present together though I  $\delta 4.$  could not analyse the Sn and say to which elements of it the Plre or Unpre corresponded.  $\beta 2.$  The Plre seemed intimately bound up with the mere passive contemplation, the Unpre  $\alpha 3.$  had a nauseating quality which was connected with unpl. org. Sns and the tendency to  $\lambda 1.$  expire down the nose, to blow it out as it were. Attn fluctuated very irregularly between  $\delta 9.$  the two Sns. the prominence of their respective f.s fluctuating in a corresponding way.  $\delta 3 \& 4.$  The Unpre of the P. co-existed with both Plre and Unpre of smell. The f.t. of P. was localized in the hand and that of the smell sometimes definitely in the nose, sometimes in  $\delta 16.$  the throat or gullet. This was especially the case when the smell was particularly unpl. and when the org. Sns were prominent. The Unpre of the olf. Sns was much more complex and so intimately bound up with the org. Sns, whereas the Unpre of the P. was well localized. When I have analysed any apparent differences of quality in the Unples of the  $\epsilon 2.$  smell and that of the P. there seemed nothing left but difference of i. and local sign and extensity.

2/12/15.

*Expt 108: (class G) Stroking palm of hand.*

A very complex expe. The content of C. is almost continually varying and the f. also varies frequently, both in i. and in quality. To begin with there were very distinct cold Sns which were slightly unpl. At some points there seemed also to be heat Sns slightly pl. The tact. Sns were sometimes indifferent, more often slightly unpl., sometimes quite markedly unpl. At these times there was an expe which could perhaps be best described metaphorically as "going against the grain," or "rubbing the wrong way." I could distinguish at these times a roughness and a jerkiness of the tact. Sn and a widespread org. Sn which seemed to radiate from the hand. A tendency to shrink all through the body. An unpl. Sn seemed to be localized in the mouth and especially in the upper teeth. Particularly the last element (i.e. the Sn from the teeth) was very unpl. Then there were in the hand a number of rapid and vivid Sns which were like the expe of being tickled. I think I could discover in these P. and temp. components. They were localized at a number of discrete points and the Sn at each point, appearing and then disappearing. These Sns were very pl. and during the moments of their appearance almost monopolized C. Very little, if any, co-existence of f.s. The sum total of the expes is unpl. In the period immedi-

ately preceding the application of the st. and perhaps during the first moments of the application there was a slight emotion of repugnance dimly connected with the fact that the experimenter was of male sex.

*Expt 109: A 1 and V 1 (class A IV).*

Both very pl. to begin with. Attn fluctuated rather violently between the two Sns but afterwards these fluctuations became much less marked and both Sns were continuously well in C, though slight fluctuations persisted to the end. In the earlier part both were approximately equally pl. so that the i. or quality of the f. did not fluctuate as did the Sns. The f. was, however, ascribed to, or definitely connected with, the predominant Sn at any moment. In the latter part of the time the f. was sometimes connected primarily with the sound, sometimes primarily with the col. This fluctuation did not seem to correspond closely to the predominance of the Sns though at this time there was very little difference in the relative predominance of the Sns. Sometimes the f. seemed to have no very definite connection with either of the Sns, but to be connected with a total situation which comprised both stimuli. At these moments there was definitely present a mood of a reposeful nature which was accompanied by widespread org. Sns which were also themselves slightly pl.

6/12/15.

*Expt 110: Mood (class F).*

Tried to produce a mood by talking to observer on topics of interest to him but failed. Störring's<sup>1</sup> expt was then repeated by giving a solution of raspberry syrup:

There was a distinct Plre in the Sn from the st. After I had swallowed slight Unpls which seemed to be connected with the lessening of the sensory Plre. Then there came on gradually a very pl. mood of contentment, characterized by a completely spectacular attde. I felt quite at peace with everything. The sensory Plre persisted most of the time but the mood continued just as strongly during short periods when the Sn and its Plre were absent and I think that occasionally the two Plres co-existed and were distinctly separate, though most of the time there seemed to be a considerable degree of fusion. When the sensory Plre was felt as distinct from the Plre of mood there was a higher degree of attn generally and to the Sn particularly than during periods of comparative fusion. (St., *tuning fork*): The mood had become much weaker by this time. It seemed to have been to a great extent disturbed by speaking. The tuning fork almost immediately produced another mood which seemed to be of a slightly different character, more repose than contentment. The Plre of this mood seemed intimately fused with the sensory Plre. (*Scraping noise (A 5)*): The noise was in itself rather unpl. but I regarded it as something I could easily tolerate. I looked indulgently upon it and the Plre of the mood seemed to be in the background of C., all or nearly all the time. (*Colour, V 6*): The col. was immediately markedly unpl. and this Unpls seemed at first to monopolize C. and drive out any Plre of mood. Later on the Unpls became less marked and fluctuated with attn to the Sn. When the Sn was less clear a very feeble Plre of mood seemed to return, to be driven out again whenever the Sn and its Unpls came more into C. again. The Sn aroused to begin with an emotion of disgust. The f.t.s of the Sns were localized but not that of the mood. There were org. and muscular Sns connected with the mood.

9/12/15.

*Expt 111: V 4 and G 3 (class A IV).*

The vis. Sn distinctly pl., the gust. Sn very complex, mostly unpl. Attn fluctuated irregularly between the two. During the greater part of the time both were in C., one

<sup>1</sup> G. Störring: "Experimentelle Beiträge zur Lehre vom Gefühl." *Arch. f. d. ges. Psychologie*, 1906, 316-356.

slightly clearer than the other. The vis. Sn was pl. the whole time and it seemed warm,  $\delta 9$ , cheerful and robust and when it was strongly in C. the Phe it aroused was very consider- $\xi 1$ . able. I believe it aroused an incipient mood of cheerfulness which was accompanied by  $\alpha 3$ . org. Sns, also agreeable. The gust. st. was first perceived as cold and slightly unpl., then it acquired taste quality which was distinctly unpl. The taste quality seemed to change twice during the expe., becoming each time qualitatively different and more unpl. Once  $\alpha 3$ . I thought I could definitely distinguish sweet and sour at the same time. Towards the end it acquired a sickly character which was actually accompanied by very feeble Sns of nausea which had however an extremely unpl. f.t. Besides the taste there was very often  $\theta 1$ . a pricking Sn and sometimes a burning Sn; these two seemed often fused and were for the most part distinctly pl. Both the Phe and the Unples occasioned by the taste st. co- $\delta 3$  &  $4$ . existed with the Phe of the vis. Sn. I could distinguish no qualitative difference between  $\epsilon 2$ . the two Phes when they co-existed except that the Phe of the pricking Sn was distinctly  $\delta 16 \pm$ . localized, that of the vis. Sn unlocalized. This pricking Sn seemed to have the same  $\theta 1$ . quality as an ordinary painful prick, it was in fact a P. Sn.

*Expt 112: O 3 and A 2 (class A iv).*

The olf. Sn at first distinctly pl. and after the first moments this Phe seemed to fuse with  $\zeta 4$ . that of the aud. Sn into a total pl. situation which seemed like an incipient mood of contentment in which both Sns were in the background of C. The attn was given more closely to the Sns and then their respective Phes became more definitely attached to them and  $\delta 3$ .  $\xi 3$ . definitely separated in C. The Phes co-existed and I could discover no qualitative differ- $\delta 16$ . ence between them, except that the olf. Phe was localized in the nose. After this the olf.  $\delta 7$ . Phe rapidly diminished in i. and the Sn then became unpl. with rapidly  $<$  i. of the Unpls. At this point the olf. Sn began to wane and towards the end was very feeble, but such as  $\alpha 3$ . it was, it remained distinctly unpl. and began to be accompanied by Sns of nausea, also very unpl. During the greater part of this time the aud. Sn and its f. were very much in the background of C, but towards the end became slightly more prominent and its Phe  $\delta 4$ . distinctly co-existed with the Unpls of the smell and the nausea.

*Expt 113: T 3 and P 1 (class A iv).*

There was for the most part a rapid alternation of attn between the two Sns. The periods of attn to the tact. Sn being usually longer than those to the P. Sn. There were, however, some periods when both were definitely in C. On these occasions the P. Sn was  $\beta 4$ . only slight. The tact. Sn was pl. throughout. It had a soothing character which seemed to be all the more welcome in contrast to the Unpls of the P. The P. Sn itself varied somewhat in character from time to time, being sometimes localized more on the surface than at other times. It was during these periods that it was often particularly unpl. and would  $\delta 5$ . then seem to monopolize C., the tact. Sn quite vanishing for a few short moments. Towards  $\eta 1$ . the end I experienced some anger directed against things in general. This was particularly strong in moments following upon rather more severe P. than usual. The Unpls of the P. seemed to depend partly on its character, being more severe when it was localized peripherally, and partly on the i. of the Sn itself.

17/12/15.

*Expt 114: P 1 and G 4 (class A iv).*

Gust. st. at first cold, slightly unpl. and taste developed gradually. At first indifferent, then increasing in Unpls. At this point P. was first perceived, unpl. from the start and the Unpls rapidly rose to high i. and for a short time completely occupied C. The gust. Sn quite disappeared. Then gradually the gust. came back. The P. receding at the same time. But the Unpls of the P. seemed to diminish more than its purely sensory side, so it was

δ 10. often only very slightly unpl. when so far as the Sn itself was concerned it was fairly prominent in C. As regards the gust. Sn the degree of Unpls seemed to correspond more  
 ε 3. θ 2. closely to the clearness of the Sn in C. As a whole the gust. Sn was more unpl. than the  
 δ 16. P. except at the first. It was also less well localized though it was localized in the region  
     of the mouth. The P. was clearly localized at a point on the hand. The two Sns and their  
 δ 9. f.t.s continued to fluctuate very slowly during the whole period, but after the initial dis-  
 δ 3. appearance of the taste both Sns and their f.t.s were continuously in C. There were diffused  
 α 3. org. Sns which seemed intimately bound up with the gust. Sn. These org. Sns themselves  
     were indifferent or only very slightly unpl. On swallowing the quinine more or less auto-  
 γ 2. matic shaking of the head took place and the resultant Sns seemed in some way to alleviate  
 θ 5. the extreme Unpls of the taste. There is in the P. some quality which is fundamentally  
     distinct from the pressure which usually accompanies it and which is not the same as the  
 θ 4. Unpls which also accompanies it.

*Expt 115: A 6 and P 3 (class A iv).*

Both Sns continuously present to C. and both were always unpl. The P. was as a rule  
 θ 2. the more unpl., except once or twice when the and. Sn became particularly intense and it  
     became more unpl. than P. The P. was fairly well localized and contained the prick  
     quality like last time and sometimes also there seemed to be present a heat Sn which could  
 α 4. just be analysed out of the rather complex whole. The unpl. f. belonged to this whole  
     and I could not attach it or any part of it to any of the constituents of this whole. In  
     connection with the P. there was present during the greater part of the time a sort of mood  
     of resignation which somehow seemed symbolized in the passivity of my left hand. This  
 γ 1. mood, however, would be broken in upon from time to time by a slight emotion of anger  
     which seemed directed against the sound. The irritating part about the sound being that  
 α 3. it took place while I was enduring the P. There were very diffuse org. Sns throughout but  
     these were quite in the background of C. and had no marked f. The anger was distinctly  
 δ 3. unpl. and its Unpls was distinct from that of the two Sns though all three Unpls co-  
     existed. The resignation seemed as nearly as possible indifferent. I could not distinguish  
 ε 2. any qualitative difference between the various Unpls, that is not analysable into some  
     difference in the attributes of the f. or the attributes of the Sns.

*Expt 116: V 6 and P 2 (class A iv).*

Both unpl. The two Sns were in C. the whole time and during the greater part of the  
 δ 3. time their respective f.s were quite distinct but co-existed. Towards the end the Sns and  
     their f.s seemed to some extent to fuse into a total unpl. situation in which there was no  
 δ 11. longer any clear discrimination between the two Sns and their f.s. The attitude was very  
     spectacular throughout and there was towards the end an incipient mood of resignation.  
 The col. was unpl. in itself and did not call up any associations. There was, however, to  
 γ 6. begin with a very slight emotion of disgust accompanied by very slight Sns or images of  
     nausea. The P. was fairly well localized and there seemed to be two constituents: a brighter  
     sharp P. like the prick Sn before and a duller P. which was localized more deeply and which  
     seemed to surround the central prick. I could also detect thermal elements, I think both  
 ε 2. heat and cold. The f. seemed to attach to the whole complex Sn. While the two f.s co-  
     existed I could not distinguish any difference in quality between them, but the Unpl.  
     of the P. was more intense.

21/1/16.

*Expt 117: (Class G) P 1 (gradually < ).*

η 8. At first very light pressure Sn, slightly pl., but at the same time some emotion con-  
     nected with the thought that it would soon become unpl. The pressure Sn itself was

slightly pl. It gradually increased in i. at the same time the Pfre grew less and turned into indifference.

θ 3. Then I noticed a new quality of Sn, a pricking quality which was painful (in the psychological P. sense and unpl.). This pricking quality was at first experienced together with, or possibly alternating with, the pressure Sn, but later on the Pressure Sn became more and more marginal, but I think it remained to the end. The pricking quality gradually changed its character and became a sort of sting in which I could distinguish both P. and what seemed to be heat Sn. This complex was highly unpl., though the unpls seemed to belong to the Sn as a whole. The Sn distinctly fluctuated as regards i., the f. of Unpls fluctuating in a corresponding way, so that *at moments* the Sn was almost, if not quite, indifferent.

*Expt 118: A 1 and V 1 (class A iv).*

Both very pl. During first moments the attn went predominantly to the aud. Sn. The noise caused by putting fork on box was felt as distinctly unpl., but as this stopped δ 12. and I heard the sound of the fork, the Unpls abated and rapidly changed to Pfre. I distinctly observed that the change was gradual but I think the fork was pl. from the beginning η 9. and what was unpl. was the emotion of irritation which was directed against the original noise. All this time the col. had been in the background of C. and slightly pl. ε 3. It now came much more prominently into C. and became more pl., though for a short time β 3. I had the thought that the light was too bright and was reducing the saturation of the col. While having this thought the col. was much less pl., perhaps for a moment actually unpl., but as the thought vanished the col. became pl. again. The fork-sound was in the background of C. all this time and slightly pl., but now became more prominent together with its Pls and there ensued fairly rapid alternation of attn between the two Sns, both remaining, however, continuously well in C. I believe that both were pl. throughout this γ 1. period. In addition there was a mood of repose which was also pl., accompanied by org. Sns. Once or twice a particular group of org. Sns rather intruded into C. and was slightly δ 3. unpl. It seemed to have nothing to do with the mood. I think that all these Pleasantnesses mentioned were present in C. simly though their relative i. was continually varying.

*Expt 119: T 2 and O 1 (class A iv).*

Touch very pl.—smell fairly pl.: There was a continuous and fairly regular alternation of attn between the two Sns throughout the whole period. Though the touch was never out of C., the smell did vanish sometimes for brief periods. The Pls of both Sns fluctuated δ 9. on the whole in the manner corresponding to the fluctuation of the clearness of the Sns, δ 8. though the Pls of the touch seemed to remain fairly great even when the touch Sn itself ε 3. a 3. was some way from the foetus of C. There were also org. Sns which seemed to be connected principally with touch. The touch seemed to have a caressing quality and there were also tickle Sns distinguishable from the pure tact. Sns. The tickle Sns caused a slight tendency λ 1. to convulsive movement of the arm especially and even of the whole body. The olf. Sn was fairly pl. from the start and the i. increased towards the middle of the expt but decreased again towards the end. At times I felt a very slight irritation that the olf. Sn was not stronger, at least once the Sn quite disappeared from C. though attn was directed β 2. to its expected reappearance. During this time there was a rather helpless attde which was somewhat unpl. All this time the touch Sn continued to be present, so that there δ 13. were combinations of both simly; Pfre-Pfre, and Pfre-Unplre.

28/1/16.

*Expt 120: T 6 and A 4 (class A iv).*

Both pl. Attn alternated fairly slowly and regularly between the two Sns. The touch Sn was complex in character involving tickle and I think also temperature Sn. The pressure

itself was unusually indifferent or sometimes very slightly unpl., but the tickle Sns were  
 5 7. markedly pl. The aud. Sn was at first almost indifferent, but then became distinctly pl.  
 5 1. It soon became associated with a mood of a reposeful character which was also accompanied  
 a 3. by org. Sns of a pl. character, though these were very much in the background of C. There  
 was also a thrilling Sn in the head which I think was slightly pl., but I am not quite sure  
 about this. The mood was most prominent when the sound was most clear in C. and was  
 usually accompanied by the idea that the sound was a long way off and very small, i.e.  
 the sound was given distinctly spatial attributes. The tickle Pls was not accompanied  
 by any mood but when it was most prominent in C. the org. Sns were of a different char-  
 a 1. acter and I felt much alert and ready to move. Both Sns and their respective Pleasant-  
 a 3. nesses were in C. the whole time, though they were never of equal clearness, one always  
 predominating.

*Expt 121: O 4 and V 4 (class A iv).*

Col. pl.—smell usually unpl.; sometimes violently so. The col. was first in C. and was  
 pl. from the start. The col. itself seemed to be warm, kind and cheerful though these  
 attributes were for the most part only in the background of C., flashing up more clearly  
 very occasionally. The clearness in C. of the col. Sn was soon reduced, however, first by  
 the anticipation of the disagreeable smell and then by the smell itself which was at first  
 5 6. indifferent and then with  $\triangle$  i. definitely unpl. The i. of the smell then decreased again and  
 for a brief moment became actually pl. Attn then wandered again to the col. which was pl.  
 as before. During this time the col. had been almost, if not quite, out of C. After a short  
 period of predominance of col. during which the smell was quite out of C. the smell re-  
 a 1. turned, passing through an initial phase of Plre, but then as the Sn became more intense  
 a 9. becoming definitely unpl. This Unpls remained to the end, though its i. varied as did also  
 the i. of the Sn. During this time the col. was also present to C., though less prominently  
 a 4. than the smell and was distinctly pl., the pl. and unpl. distinctly co-existing. Towards  
 the end the col. became more prominent and smell a little less prominent though the smell  
 continued to be disagreeable. The smell continued for some time after the st. was with-  
 a 1. drawn and was perhaps more unpl. than ever before. I noticed a strong tendency to expire  
 a 6. violently. The smell by this time had aroused a weak emotion of disgust. The Unpls of  
 a 16  $\pm$ . the smell was localized in the nose. The Pls of the col. was, I think, not localized though  
 it was the col. which carried the above-mentioned qualities of warmth, etc.

*Expt 122: T 4 and G 3 (class A iv).*

Taste at first unpl. but it soon developed very complex qualities including heat and  
 pricking as well as taste proper. The taste was always unpl., sometimes markedly so, but  
 the taste Sn itself was often overwhelmed by the pricking and burning which were often  
 a 1. distinctly painful, but this P. was often quite markedly pl. When the tact. st. was applied  
 attn was given to the resulting Sn for a short time but then quickly went back again to  
 the taste which was much more interesting. On several occasions subsequently the touch  
 returned to the focus of C. but only for brief intervals. It was then either indifferent or  
 a 4. slightly unpl. except on one occasion when for a moment it was less sharply differentiated  
 from the taste, the two Sns appearing to be fused into a single sentient state. During this  
 moment it (the touch) was if anything slightly pl., though it is difficult to say whether it  
 had any separate f.t. at all. At other times when not in the focus of C. the touch was very  
 much in the background and I think that it sometimes vanished out of C. altogether.  
 a 1. Once when the touch was in the focus of C. I felt a certain amount of anger directed towards  
 it. It seemed to me to be an intruder which prevented me from giving my full attn to the  
 taste. At several times during the expts I had a kind of *synesthesia*, the touch being associ-  
 ated with an image of a dark brown col. which appeared very dull and uninteresting, the

taste being associated with a pinkish red col. which was very exciting and seemed to indicate strong emotionality. There seemed to be a peculiar quality in the pleasurable elements of the gust. Sn; I should like to describe it as a peculiar spiciness which seemed to have an element of erotic excitation.

4/2/16.

*Expt 123: A 4 and P 3 (class A iv).*

P. unpl. Sound slightly pl. To begin with considerable apprehension with tendency to withdraw hand. The P. st. was applied first. There was merely a taet. and cold Sn at first, then a very slight P. The thought occurred "I expect it will get worse than this." The P. then gradually increased in i. until its predominance in C. was suddenly cut short by the irruption of the aud. Sn. The aud. Sn was then predominant for a short period. It was at first indifferent and then, I believe, slightly pl. During this time the P. was very nearly out of C., but then suddenly came back again and almost, if not quite, monopolized C. for a somewhat longer period than that during which the aud. Sn had been predominant. This alternation occurred fairly regularly several times in succession, the P. Sn being always very unpl. and being predominant a rather longer time than the aud. Sn. I feel pretty sure that on several occasions the aud. Sn was quite out of C. but the P. Sn usually persisted in the background of C. during the predominance of the aud. Sn. The aud. Sn seemed to be a long way off and to be reposeful in character though once or a 4. twice for very brief periods it was slightly irritating. During these periods it seemed to fuse to some extent with the P. Sn into a total unpl. situation. When the P. Sn was only δ 9. ε 3. in the background of C. its Unpls greatly decreased, but I think there was some Unpls connected with it whenever it was in C. at all.

*Expt 124: O 3 and G 1 (class A iv).*

Both pl. The olf. Sn was the stronger nearly the whole time and it tended also to be predominant. Several times I recalled the task to compare the f.t.s of the two Sns and then turned my attn voluntarily to the gust. Sn, but this did not succeed in making the Sn at γ 9. all intense and this want of success was somewhat irritating. This irritation was unpl. The olf. Sn remained pretty clear in C. even during those periods of voluntary attn to the taste, indeed the two Sns co-existed in C. during the whole or very nearly the whole of the expt. The olf. was perhaps on the whole slightly more pl., though from time to time it seemed to contain slightly unpl. elements. It is possible that these elements were really a 3. not olf. in nature, but of the nature of very faint nausea. The gust. Sn was pl. throughout. δ 9. Towards the end the gust. Sn rather suddenly became much more intense and also its Ples and the olf. Sn became less clear in C. At the very end it may have vanished from C. δ 16 & 3. altogether. The two Ples were both localized one in the nose, the other in the mouth and thus appeared to be quite distinct and separable one from another. Any difference in ε 2. quality seemed to appertain to the Sn and not to the f.

*Expt 125: T 1 and V 2 (class A iv).*

Both pl. The col. called up vague vis. images of a picture of the sea I have got at home and together with these vis. images there occurred ideas of fresh air and wind blowing a 3. upon me. These produced a variety of org. Sns amongst which I could distinguish Sns connected with breathing, which I think was deeper than usual and a very slight tickle Sn in various parts of the body. The touch Sn then suddenly entered C. and was predominant during the greater part of the period during which the stimulation occurred. It was distinctly pl. but once or twice it occurred vaguely to me that it did not go well with the vis. Sn because the touch was on the whole of a reposeful character, whereas the vis. Sn was invigorating. Later on these thoughts were less explicit and there was only

present a vague sense of disturbance each time the tact. Sn began. Before this period the  
 β 5. two Sns seemed to have vaguely a certain moral character, the vis. Sn being more desirable,  
 the tact. less desirable, because conducive to laziness. At some periods, however, these  
 thoughts were more or less absent. I then gave myself over to the enjoyment of the tact.  
 Sn, the vis. Sn being meanwhile in the background of C., but always present. Once or  
 α 2. twice I noticed a slight roughness about the tact. Sn which was unpl. This roughness and  
 δ 16. Unpls was definitely localized at a particular spot on the hand. As soon as the tact. Sn  
 ε 3. ceased the vis. Sn became more prominent in C., and also its accompanying Plre, and I  
 noticed an increase in the above-mentioned org. Sn.

Class B 1. *Expts with Special Instructions: Live the expce and describe it as fully as possible* (discard entirely previous instructions, viz. those to attend to the aff. side of the expce).

10/2/16.

*Expt 126: T 1* (class B 1).

η 2. Some tension in fore period and very slight anxiety as to the nature of st., whether it would be pl. or unpl. A small shock when st. was first applied. The shock was somewhat  
 γ 13. unpl., it was composed of an emotion of surprise plus actual tendencies to move hand  
 λ 1. away. This tendency manifested itself in muscular Sn. This shock very soon diminished and I soon adopted a very passive attde. The Sn was complex in character being partly tact. and partly tickle Sn and I think also occasionally thermal (especially heat) Sns.  
 δ 3. The total Sn was pl. and at times I could distinguish two kinds of Pleasantnesses: the tact. Sns were soothing, the tickle Sns were of a rather opposite kind, of an enlivening character  
 γ 2. which seemed to produce slight and very fleeting muscular contractions and tendency  
 λ 1. to general movement. The soothing character of the tact. Sn seemed to be connected  
 α 3. with a different class of org. Sns which were located chiefly in the interior of the body.  
 ε 2. I think the Plre itself in the two cases is not different in quality, but what at first appears to be a difference of quality can be resolved into those differences of accompanying muscular and org. Sns—sometimes the tact. sometimes the tickle elements were most prominent in C. Sometimes they were together in C. in approximately equal clearness but this only for very short periods.

*Expt 127: O 2* (class B 1).

α 1. Attde very passive throughout. The Sn gradually increased in i. as I inspired and for a time increased in Pls. Then suddenly there seemed to be a slight change in the quality of the Sn. A fresh quality was introduced which was sometimes perceived simly with the initial quality, and sometimes in isolation. This new quality was from the start slightly unpl. and this Unpls gradually increased. This quality seemed to be coarse and crude  
 γ 6. compared with the first ones and towards the end aroused a very slight emotion of disgust.  
 δ 4. When the two qualities were perceived simly the one was pl. and the other unpl.

*Expt 128: G 2* (class B 1).

First a Sn of cold which was slightly unpl., then a thought: "Soon you will have a very nice Sn." Then for a little time I noticed two distinct Sns present together; one the  
 α 1. gradually diminishing Sn of cold and the other gradually < Sn of taste. The cold ceased  
 δ 6. to be unpl. after a time and before it ended, I think it became very slightly pl. The taste Sn was at first quite indifferent. Then I think that for a moment it was slightly unpl.  
 This Unpls seemed to be connected with its faintness and indeterminateness. Then as the  
 α 1. Sn gradually increased in i. it became definitely pl. and the Pls rose gradually till it had attained a very high degree. At this moment I moved the syrup about in my mouth in

order to obtain the greatest possible Sn and the whole process was extremely pl. There a 3. were also org. Sns which were also pl. Towards the end of this period a certain component of the gust. Sn became slightly unpl. and I thought of it as sickly. Other parts of the Sn continued to be very agreeable but on moving the liquid in my mouth again the sickliness disappeared. At this point I suddenly remembered Störring's expts on Pls of Sn and Pls of mood and wondered whether I shall get the Pls of mood. Then I thought I must not let this influence the expt. For a time I gave myself over again to the passive enjoyment of the Sn and I then automatically performed a swallowing movement. The Sn was still pl. but less intense and less pl. than before. Gradually a kind of sleepiness crept over a 3. me which was very pl. I felt extremely contented and I noticed particularly pl. org. Sns and a tendency to stretch the limbs which gave rise to pl. muscular Sns, particularly from  $\zeta$  1. the calves of the legs. I had a vague thought that this was perhaps a mood. I had to rouse myself by an effort to give an introspection.

11/2/16.

*Expt 129: Hot and Cold Water (class E).*

On plunging hand into cold water the cold was at first pl. for a very brief moment.  $\zeta$  5. The Phe seemed to be connected with a generally stimulating effect throughout the body and was, I think, partly due to its influence upon the general mood of depression, it acted, a 3. as it were, as a tonic. This, however, was of very short d. and soon the cold Sn began to get markedly unpl., though the increased muscular tone throughout the body continued to be pl. for a few seconds. The cold Sn gradually became more and more unpl. and then suddenly I noticed a fresh kind of Sn which seemed to be of the nature of a muscular cramp of the hand. This was an aching P. localized in the interior of the hand and the upper  $\delta$  3. part of the fingers. These two Unples continued at about the same i. for some time and the thought then occurred "it is time to put the other hand into the warm water." At the moment of immersion there was a slight fear lest the water might be unpleasantly hot. As soon as I actually received temperature Sns I recognized that it was just a pl. temperature and I then thought "of course it is because it is intended to be pl." The fleeting thought also of my own stupidity in thinking it might be unpl. The Phe of the heat Sn gradually increased for a few seconds and then remained at the same level. Attn oscillated slowly from one Sn to the other but both remained in C. the greater part of the time and sometimes for a short period. The two Sns were approximately equally clear in C. I think  $\beta$  4. that when attn wandered from the hot to the cold the cold was rather more unpl. than it  $\delta$  9.  $\epsilon$  3. had been before I felt the heat. The i. of the f.s in both cases varied more or less directly  $\delta$  16.  $\delta$  4. as the clearness of their respective Sns and the Phe and Unpre were distinctly present in C. simly. Both were well localized. After a time I began to notice an unpl. element in the Sns from the hot hand. This was a peculiar Sn and was localized on the palm of the hand and on the inner side of the fingers and on the finger-tips, viz. a Sn allied to that of one's teeth being on edge and it seemed sometimes as if the skin over the affected parts  $\delta$  4. was abnormally tight and smooth. This was definitely unpl. but did not stop the Pls of the warmth, which was just as marked as before. At some moments I felt a distinct  $\lambda$  1. impulse to withdraw the right hand from the cold water and place it in the hot. Sometimes this tendency became very marked so as to become a rather intense longing.

25/2/16.

*Expt 130: A 1—V 3 (class B 1).*

The attn was at first given entirely to the col. which appeared slightly pl. The attde of mind was spectacular, practically no thoughts or associations were present. Suddenly  $\kappa$  4. attn was distracted by the noise of hitting the fork and for a time was almost entirely  $\beta$  2. given to this noise. This disturbance of attn was unpl., but the noise itself very soon

seemed to acquire a humorous character. I noticed a slight tendency to giggle. This was distinctly pl. Then the thought occurred "that is not the proper noise" (quite wordless) and then followed a state of expectancy in which I had an image of the expected sound of the tuning fork. All this time the col. was almost, if not entirely, out of C. Then the fork

η 13. was actually heard. There was at first a slight shock of surprise which was rather unpl.

δ 7. but the sound soon became indifferent and then gradually pl. At this time the col. gradually came back to C. and from now to the end both the col. and the sound were almost, if not quite, continuously in C., sometimes about equally clear, sometimes one or the other predominating. I noticed a two-fold change in the character of the sound as time went on.

First, it became less intense, and secondly it seemed to get lower in pitch. At the end,

α 4. when it was fairly faint, the sound seemed to fuse with the col. into a total situation

ξ 1. which was quite pl., and which occasioned a mood of repose accompanied by pl. org. Sns.

ξ 2. The mood outlasted the stimuli by about 15 seconds. At one time I had very vague and indefinite thoughts about green being the col. of Ireland and I think also a very vague vis. image of a map of Ireland painted green and of a girl in a green dress whom I supposed to be Irish.

*Expt 131: T 2—O 3 (class B 1).*

Attn very passive throughout. Attn went first to the olf. Sn. At the first moment

δ 7. it was slightly unpl. and then became pl. Then attn went to the tact. Sn which was very pl. from the first and seemed to be of an almost voluptuous character, a good deal more pl. than the smell ever was. Attn then oscillated fairly regularly between the two Sns.

I don't think they were ever present together in C. with anything like equal clearness. As a rule attn went predominantly to the smell during a greater part of the time when I was inspiring. The smell Sn vanished completely during expiration and I remember thinking at one time that the two Sns were not quite comparable in this respect, one being oscillatory, the other continuous. This thought was without words or images. There were moments

η 4. of slight disappointment when I ceased to inspire and the smell could no longer be perceived, but in every case I very soon gave my attn entirely to the tact. Sn.

*Expt 132: G 4—P 3 (class B 1).*

The taste was first perceived; at first merely as cold and wet, then gradually a small gust. element came in as well, at first indifferent then slightly unpl. The Unpls increased

α 1. slowly until I moved the tongue to some extent, then the liquid rolled down and the taste Sn altered its character and became more intense. At the same moment the Unpls rose

κ 1. very rapidly till it attained a very high degree. This moment attn was distracted to the

ε 3. P. Sn which for a moment almost, if not quite, monopolised C. This was very unpl. from

the first, but I seemed to remember vaguely that it had been in the background of C. for a few moments previously and that during that time it had been unpl., but not nearly so much as now. Then for a time there occurred a series of very rapid fluctuations of attn from one Sn to the other, though both Sns were, I believe, continuously in C. During this

θ 2. time I made the judgment: the taste is more unpl., though they are both horrible. This was accompanied by aud. motor imagery. The words "unpl. both" and "horrible" being distinctly present to C., the rest being very blurred. The fluctuations of attn gradually became less marked and towards the end both Sns were present with nearly equal clearness. I think there were small oscillations of attn even here. Both Sns were very unpl.

δ 16. and the Unpls was pretty well localized in both cases. I distinctly noticed towards end

δ 3. λ 1. that the two Unpleasantnesses were present simly. During this time strong tendency to shake head violently.

6/3/16.

*Expt 133: V 1—T 2 (Old instructions) (class A iv).*

Both pl.—Throughout the expt attn oscillated in a fairly regular manner between the two Sns but I believe that with very few exceptions both Sns were present to C. throughout.

δ 9, ε 3, The Lt. of each Sn fluctuated in a manner corresponding to the fluctuations in clearness δ 3, of the Sn to which it belonged. There were moments when the two Sns and their f.t. were approximately equally clear in C., but these moments were of comparatively short d.

The tact. Sn seemed sometimes to be of a soothing and sometimes of a slightly frivolous β 5, nature. When this latter was the case there was, or had recently been, a comparison of the tact. with the vis. Sn. The vis. Sn had distinctly the attribute of calm and profundity and it was in comparison with this that the tact. Sn seemed frivolous. This comparison β 4, once or twice gave rise to very slight Unpl and very slight disapproval of, and annoyance α 3, with, the tact. Sn. The tact. Sn gave rise to further very pl. Sns of a thrilling nature in the hand and arm. These Sns were localized subcutaneously and were not distinguished from the tact. Sns proper, except in moments of very clear attn to the tact. Sn. The vis. Sn occasionally called up very vague ideas of the sea and of a sky at dusk. The Plre of δ 16 ±, the tact. Sn was localized in the hand and arm. I did not notice any localization of the α 3, Plre from the vis. Sn. From time to time I noticed org. Sns from the throat and in the thorax. These were pl. and were clearest in C. during moments of attn to the vis. Sn.

*Expt 134: Expt to remember a Sn and its f.t. (V 1) (class D).*

The aff. t. of the memory of the col. is usually slight or scarcely present at all. I have never any difficulty in knowing that I had Plre when I was actually perceiving the col., but α 1 & 2, there does not seem to be a Plre image corresponding to the vis. image. I do sometimes, however, get a fresh Plre from the contemplation of the image, Plre that, as regards quality, is nearly the same as that experienced during the sense perception but which is a good deal less intense. This Plre was in every case accompanied by, and I think also preceded by, α 3, the same org. Sns that I experienced before, though in much diminished i. The vis. image is always quite vivid during these moments of Plre.

*Expt 135: Expt to remember a Sn and its f.t. (T 2) (class D).*

I have great difficulty in obtaining any f.t. in connection with the image which itself is a good deal less clear than the preceding vis. image. When I try to obtain a clear image and to remember the f.t. I am always disturbed by actual Sns of the hand which as it were thrust themselves into C. In the times when I did succeed in getting an image of the tact. Sn this image was at first somewhat unpl. Later on it became slightly pl., but in both α 1 & 2, cases the f. as such did not seem to differ in quality from the f. experienced in the sense perception, though it was very much less intense and was often so weak that I was not sure whether it was present at all.

10/3/16.

*Expt 136: Cognitive T 3 (5 seconds) (class B II).*

Attn remained uniformly fixed upon the Sn and, except during one or two moments, thoughts arose connected with the expt. Except on one or two occasions I had the thought: "I wonder how many Sn elements I can distinguish." This thought was largely wordless, though the words "distinguish" and "Sn elements" were present to C. The Sn was soft and generally pl. The softness was of a peculiar quality which I can do no more than describe as velvety. This quality was continuous (in time) and throughout occupied a considerable area. Its only change seemed to be one of localization. Besides this continuous (temporal) quality there were other Sn qualities which were of short d. and localized in a definite spot. These seemed to be sometimes thermal, sometimes tact. and I believe some-

times painful. I could describe them all by saying that they were "brighter" than the continuous Sn; each one rose and vanished very quickly. They were mostly indifferent, sometimes slightly pl., sometimes slightly unpl., whereas the continuous velvety Sn was, I think, always pl. (I think most of this is retrospective.)

*Expt 137: Aff. T 3 (class B II).*

I noticed a good deal less strain of attn than last time. The attde was more purely passive. The attde was accompanied by greater muscular relaxation throughout the body. The Sn had the same continuous velvety quality as last time but the localized Sns, I believe, never entered C at all. The Sn was pl. almost, if not quite, the whole time and was distinctly soothing. Only once towards the end did it become very slightly unpl. Attn then became more alert and I asked myself the question why I felt it unpl. No reason came to my mind, but the thoughts on this subject were interrupted by a recurrence of the instructions and I thought "I am not following the instructions if I think about this." The attde became more passive again and the Sn continued to be pl. till the end. I think  
 7.9. now that at the moment when the Sn was unpl. I felt some slight irritation about it, but I cannot tell why. (Mostly retrospective, introspective when the thoughts occurred and before when I thought the Sn was pl. There was a distinct difference between the two attdes.)

*Expt 138: en. T 3 (class B II).*

I found myself attending very frequently to muscular Sns from my hands and arms.  
 7.2. I noticed several tendencies to twitch the hand and fingers and distinctly felt muscular tremor up the arm. Those Sns were pl., I think, and called up a vague thought "I could move my arm if I chose to." This led to a still vaguer thought, that this ability gave me a sense of power. These thoughts were not at all explicit and together with the muscular Sns they fused into a total situation which I should normally describe by saying that the  
 7.2. Sns gave me a sense of power. This whole situation was distinctly pl. As regards the Sn caused by the st. used it was specially the pressure element that was present to C. There were no fine distinctions between the elements of the Sns, and the characteristic velvety quality was very seldom if ever present. About half way through the expt I suddenly  
 7.13. became aware of the absence of this quality. This absence caused me surprise. I was acutely c. of variations in the pressure and vaguely conceived that the pressure was caused  
 7.7. by another living being. The pressure was sometimes very slightly pl., and sometimes very slightly unpl., but usually very nearly, if not quite, indifferent. (Mostly retrospective.)

20/3/16.

*Expt 139: Aff. A 5 (class B II).*

7.13. The Sn was unpl., almost, if not quite, all the time. At first some emotion of surprise.  
 7.9 & 15. Later on very slight irritation. I found myself once wondering what could be the nature of the st. and I had a vis. image of some instrument being moved along the top of the cigar-box. Later the instrument appeared to be performing circular movements and I thought that the circular form of the movement accompanied by varying pressure would account for the changes in the quality and i. of the noise. During the time I felt  
 a.3. irritation there were org. Sns which were rather disagreeable and I noticed particularly Sns from the region of the eyebrows. I had a very vague vis. image of some animal's fur being rubbed the wrong way and the whole expe resembled in some way that of one's teeth set on edge. A little later I suddenly had the idea that the noise was like that  
 7.8. of roaring beasts and there was a slight but unmistakeable emotion of fear. This gradually passed off together with the idea of the beasts and I then noticed that the org. Sn had  
 7.7. become slightly pl., though the noise itself continued to be unpl. At the moment when

η 7. the Sn ceased, or just before, there was a stage of very slight excitement. This was very slightly pl. (A good deal of introspection, but also of retrospection.)

*Expt 140: en. A 5 (class B II).*

The and. Sn itself was a good deal less prominent than before and muscular Sns were quite prominent throughout. During the earlier part of the expt the most prominent thing in C. were muscular Sns very largely of a tingling character from the arms and legs.

λ 1. Towards the end of this expt I felt a desire to get up and at the same time I became more e. of the and. Sn which was distinctly irritating. Then I had a series of thoughts and images in which I saw myself getting up and forcibly preventing you continuing the noise. For a short time these almost monopolized C., though both thoughts and images were rather vague and confused. Afterwards I introspected on some point (now forgotten) and I thought that this was the sort of thing that would occur with a en. attde.

*Expt 141: eg. A 5 (class B II).*

α 3. To begin with the Sn seemed almost to monopolize C.; then I became e. of org. Sns. These were unpl. and I can only liken them to those which occur when the teeth are on edge. Then I experienced a rather vivid vis. image in which I saw a hand with some instrument held in it performing circular movements on the box. This faded gradually and the org. Sns became more prominent again, but not so prominent as before. After a short time these Sns almost vanished from C. and for a time the attde was purely spectacular. The and. Sn itself seemed to be about the only thing in C. Then I had the very fleeting thought to the effect that I was very passive. The pressure Sns from the legs and seat and slight muscular Sns from the calves entered C. for a short time, and at the end there was a strong Sn from the region of the throat and I became e. of my breathing. The and. Sn was in C. throughout except possibly at the moment of the strong Sn from the

η 1. throat and was slightly unpl. At times there was, I think, a very slight emotion of anger. (Both introspective and retrospective.)

15/5/16.

*Expt 142: O 2 en. (class B II).*

The expt at first slightly unpl. The olf. Sn oscillated rapidly in i. but the Unpls

δ 8. λ 1. seemed to remain approximately constant. I became aware of tendency to exhale violently through the nose and I think there were actual muscular Sns in the region of nostrils  
 η 6. and upper lip. This was accompanied by slight emotion of disgust. The thought occurred that I was supposed to adopt a cn. attde and that it was a good thing that I noticed this  
 η 13. tendency to exhale. Then ensued a stage of surprise that the Sn was predominantly unpl. This was of short d. and immediately afterwards the Sn itself began to grow  
 δ 7. less unpl., finally becoming neutral and then slightly pl. This Pls went on < till the end, though it was subject to slight alternations with Unpls or indifference. The attde was mainly very passive during this part of the expt. Once I had the thought that I could  
 β 3. detect nothing en. in C. This thought was accompanied by Unpls. Immediately afterwards I became aware of tact. and muscular Sns from nose and lips. (Both introspective and retrospective.)

*Expt 143: O 2 eg. (class B II).*

The general expt more passive than before. I never once noticed any muscular or tact. Sns, such as played a prominent part in last expt. For the most part the olf. Sn  
 δ 7. filled C. to the exclusion of nearly everything else. To begin with, the Sn was slightly unpl. It then became neutral and towards the end there were very brief periods during

η 5. which it was very slightly pl. or unpl. At the beginning of expiration there was some discontent connected with the fact that the Sn disappeared. On the second expiration the discontent changed to slight irritation. Then I had the thought that it really did not matter. This thought was quite wordless. Some satisfaction when the Sn reappeared again at the α 3. beginning of inspiration. Once at the end of inspiration slight uncomfortable Sns of want of breath entered C., the most marked constituent of these being a Sn of pressure in the thorax. (More retrospective than before.)

*Expt 144: O 2 aff. (class B II).*

Sn at first unpl. The Unplre persisted for a brief period at the same i. Then it increased δ 4. quite suddenly. A moment later I detected a pl. component in the Sn and for a brief period the Plre and Unpre distinctly co-existed. The Unpre vanished from C. rather β 4. abruptly and for a short time the Plre was very considerable. It seemed to me of an exciting character which was accompanied by fairly widespread org. Sns of a typical kind. α 3. I noticed particularly a slight catch in the breath which occurred at the moment of greatest Plre. I think the Sns might be described as thrilling, or slightly vibratory, in character. I think they are similar in kind to those that I have sometimes experienced during incipient erotic excitation. This high degree of Plre persisted only for a very short time. The olf. η 5. Sn itself became then much less pl. and the org. Sns died down. During expiration there was some slight discontent at the disappearance of the Sn. The absence of the Sn was β 4. uninteresting and there was a corresponding Plre at its reappearance. This was quite distinct from the sensory Plre itself. Towards the end the Sn declined very considerably in i., in fact almost disappeared, and the sensory Plre with it. This disappearance was η 4 & 5. accompanied by some disappointment and discontent. (Mostly retrospective.)

17/5/16.

*Expt 145: V 6 eg. (15 secs) (class B II).*

When I first looked at the col. I had a wave of "f." sweeping over me, the col. appearing unpl. and disgusting. The instruction then occurred in C. At the same time the "f." somewhat abated, in particular the disgusting quality became lessened. Then by a e. effort I tried κ 1. to adopt a more eg. state of mind by concentrating attn upon the Sn as such. This still δ 10. further lessened the f.t. until finally very little Unpls was left. My attn was then drawn to two small marks in the left-hand bottom corner and from there it travelled to various other marks which I detected on the surface of the paper. I found myself wondering in the case of some of these marks whether they were objective or subjective. This wondering was given in imageless thought. There ensued a period of reduced mental activity during which there was a mere passive contemplation of the col. Then I noticed a darker stripe along one edge of the col. and I thought "that is due to an after-image," fixation having wandered. (Mostly introspective.)

*Expt 146: V 6 en. (15 secs) (class B II).*

During the early part of the expt there was for the most part a passive contemplation of the col. combined with muscular and org. Sns. I noticed what seemed to be a general increase in muscular tone as soon as the expt began; and throughout the expt (and particularly marked in the early period) there was a tingling Sn vaguely localized in the arms and back. The marks in the left-hand corner attracted my attn but I soon withdrew the attn from them again, though it was an effort to do so. The thought occurred to me "why did you do this, really there is no reason why you should not look at them." During this λ 1. thought the muscular Sns became even more pronounced for a short time. The col. then η 6. appeared to me to be distinctly unpl. and somewhat disgusting, and I then had the idea of closing my fist, hitting out at the col. and knocking it away. This was accompanied, or

perhaps followed, by a vis. image of myself doing this and by marked muscular Sns from the right arm. This muscular Sn then became less pronounced and towards the end the general attde became more passive, though the col. remained slightly unpl. throughout. (More retrospective than before; a good deal is introspective.)

*Expt 147: V 6 aff. (15 sees) (class B II).*

η 6. From the very first the col. appeared unpl. and somewhat disgusting. Then my attn went to marks in the left-hand corner and from them to various other marks. The presence of these marks irritated me and particularly a small shadow at the top of the paper caused by a bending forward of the paper. These marks seemed to be imperfections in the paper. There ensued a period of less aff. C. during which there seemed to be merely passive contemplations of the col. Then I became aware of wavy horizontal lines in the middle of the paper. I thought these were caused by reflections. At first they were unpl. There was present in connection with them a vague idea (possibly accompanied by an equally vague image) of a human face with white unhealthy lines disfiguring the skin. Then the wavy lines gradually became more pl. and even seemed to be slightly picturesque and to lend interest to the otherwise monotonous surface. The Pls gradually increased to the end of the expt and eventually gave place to a slight mood of exhilaration. In the earlier part I was aware of org. Sns in the background of C. which seemed to be connected with holding the breath and, possibly, strain Sns from arms and back. (Mostly introspective.)

19/5/16.

*Expt 148: G 4 aff. (1 drop) (class B II).*

The drop was first felt as cold and indifferent, then gradually it acquired an unpl. quality and became definitely gust. in character. This gust. character was, however, continuously changing and did not seem to be at all homogeneous. I found myself interestedly observing the kaleidoscopic changes in the Sn and at one moment I had the thought, δ 8. accompanied by the verbal image "there in that place there is a salt Sn." The unpl. f.t. was present throughout this period, but somewhat in the background of C. The instruction as to the aff. attde then recurred and I felt guilty that I had allowed myself to dwell so much on the eg. side of the expt. I determined to attend more to the aff. side. This determination was accompanied by some muscular contraction in the trunk and arms. κ 1. The attde then became more passive and the Unpls came out more clearly in C. The kaleidoscopic change of the gust. quality gradually receded more and more into the background of C. At this moment I swallowed and the Sn changed definitely in character and in localization. The character was now recognized as predominantly bitter and the Sn appeared to radiate from a particular spot at the back of the tongue where it was δ 16. most acute. This point in space was extremely disagreeable and the disagreeableness for a short time occupied C. almost completely. Then in the background of C. I λ 1. became aware of an involuntary shaking of the head or, at least, of the tendency to γ 2. do so. This gradually became more prominent and seemed to afford some relief to the unpl. Sn. There ensued a period of passive contemplation of the Sn which was gradually diminishing in i. and Unpls. I gradually became c. of a need to get rid of the Sn. This C. was accompanied by a vague "f. of helplessness" and a sense of weakness; then the thought of the water occurred to me and I drank. (Both introspective and retrospective.)

*Expt 149: G 4 eg. (1 drop) (class B II).*

The Sn was at first felt as slightly cold and for an appreciable period it had no gust. quality and no f.t. Gradually I became aware of a gust. Sn at first very strictly localized and slightly unpl. This gust. Sn gradually became more intense and changed its character.

It seemed to contain some thermal qualities as well as the strictly gust. ones. Then I also  
 6. noticed a prickling Sn and for a time warmth and prickling seemed to be the most prominent  
 elements in the total Sn and the f.t. had meanwhile gradually changed in character and  
 was now slightly pl. The area over which the Sn was felt had been slowly extending from  
 the beginning but from now onwards appeared to extend more rapidly. At the same time  
 the gust. elements now became more predominant though the heat and prickling were still  
 in C. for some time. These new gust. elements soon became definitely unpl., though the  
 heat and prickling continued to be slightly pl. Swallowing then occurred and then ensued  
 an intensely bitter Sn from the back of the tongue, although the previous Sn from the front  
 of the mouth continued. These latter, however, gradually abated while the bitter Sn, if  
 anything, increased in i. and became extremely unpl. I then had the thought that I had  
 endured this quite long enough, with aud. motor images of the words "long enough." The  
 thought of the water occurred and I quickly drank. While doing so I had a very  
 clear aud. motor imagery of the words "beastly business." Though they seemed to have  
 7. little meaning there was, however, an emotion of disgust. (Introspective and retrospective.)

*Expt 150: G 4 en. (1 drop) (class B II).*

The drop at first felt as quite cold and had no gust. quality. The gust. quality gradually  
 emerged and was somewhat unpl. in character, but the Sn was not intense. Then I noticed  
 the heat and prickling Sn which occurred also last time. The instructions as to en. attde  
 then came back to C. with a vague thought that I had been paying too much attn to the  
 eg. side of the expe. I then had a "f. of helplessness" and the thought occurred "what  
 can I do to adopt a en. attde." This thought was accompanied by very vague and faint  
 aud. motor images of the words. I then thought "muscular Sns are often prominent in  
 this attde." This thought was quite wordless. Muscular and tact. Sns from the arms then  
 entered prominently into C. All this time the gust. Sn was very much in the background  
 of C. as was also its f.t. The Sns became more prominent again and the thought occurred  
 "I may as well swallow." Swallowing ensued and for a moment the tact. and muscular  
 Sns involved in this were very clearly in C. Then a very intense bitter Sn was felt at the  
 back of the mouth, this Sn appearing very suddenly and being extremely disagreeable.

I had a thought which I can best express by the words "this is too bad" and an emotional  
 7. state which comprised disgust and anger. Then I became aware that I was violently

shaking my head. This action appeared to have begun involuntarily, but when it became  
 c. it seemed to afford some relief from the Sn. After a little I restrained the movements  
 feeling slightly ashamed of them and the more active anger gave place to a kind of sulkiness.  
 I had a series of thoughts with broken verbal imagery which I can best express as follows:  
 "It really is not my fault if I have made a fool of myself. He, the experimenter, has given  
 me such horrid tastes that he could not expect anything else." The Sn continued to be in C.  
 throughout this, but was gradually diminishing both in i. and Unpls. Then the thought  
 of water occurred and I drank.

22/5/16.

*Expt 151: P 1 en. (5 secs) (class B II).*

Period of tension before application of st. St. was first felt as pressure Sn and then  
 immediately afterwards as P. which soon rose to fairly high i. I then became c. of wide-  
 spread muscular and kinaesthetic Sns from almost all parts of the body except the left  
 arm. Then I became aware that there was a strong continuous contraction of the muscles  
 of the left arm and that I was making an effort to prevent movement of the arm. The Sn  
 from these muscular contractions did not seem to have entered C. before this. I experi-  
 7. enced an unpl. emotion in which fear and anger played a part. At one moment I became

8. aware of a violent involuntary movement involving the greater part of the body. After

this the emotion subsided to some extent and the muscular Sns became less pronounced. The attde generally became more passive. The P. Sn was in C. throughout, but subject to two kinds of fluctuation. First, the fluctuation of clearness in C. which seemed to depend upon the extent to which C. was occupied with other things, principally the emotion and the muscular Sns, secondly, the fluctuation of i. which was depending on the variation of

§ 14. the i. of the st. The Unpls of the P. depended upon both these factors. At one moment I was vaguely aware that the P. Sn was complex in character. (Mostly retrospective.)

*Expt 152: P I aff. (5 sees) (class B II).*

Tension before expt, also some slight apprehension. St. first felt as pressure, then as rapidly < P. The attde was for the most part passive. I vaguely thought that I had to attend to the aff. side of the expe and must therefore not be distracted by muscular Sns or other accompaniments of the actual P. Sn. There was something which I might describe as a mood of submissiveness which was slightly pl. or, at any rate, had pl. elements (Masochism). At one time I was distracted for a few moments by muscular Sns in my right arm and subsequently also by the vis. appearance of my right hand as seen in indirect vision. But attn soon returned to the P. Sn and subsequently the contents of C. were very uniform: the principal constituents being the P. Sn itself and its Unpre, both of which fluctuated

§ 3. slightly in i., the f.t. of the mood of submissiveness, and vague muscular and kinaesthetic Sns in the extreme background. (Mostly retrospective.) The P. was unpl. throughout.

*Expt 153: P I eg. (5 sees) (class B II).*

Considerable tension and apprehension in foreperiod with subsequently some impatience, verbal images of the words "when the blazes is it coming?" together with some irritation. St. was perceived first as pressure, immediately afterwards as P. For the first few moments after the appearance of P. the expe was predominantly aff., C. seeming to be chiefly occupied by the Unpls of the P. Sn. The instructions then recurred to C. in a very rapid and condensed thought which was totally wordless and attn was then voluntarily directed to the eg. side of the Sn. Accompanying this readjustment of attn I was aware of increased muscular tension from several parts of the body, but especially from the neck and arms. As soon as the tension was fully fixed upon the eg. side of the P. Sn I was able to distinguish three constituents: First, a very definite heat Sn, secondly, a Sn which can most easily be described as prick or smart, and thirdly, a deeper Sn which at one moment appeared to partake of the nature both of pressure and cold, though as a rule this constituent seemed unitary in character. The heat Sn seemed localized in a circular manner about the bristle, but was more intense on one side than on the other. When it came out

η 13. very strongly it caused some emotion of surprise and there was perhaps some Pire in its β 1. being so clear and indubitable. It was not at all disagreeable, but indifferent as regards α 4. f.t. The prick Sn was localized in a point where it was most intense, from which it radiated evenly in all directions over a small area. It was very disagreeable and seemed also to constitute the P. Sn *par excellence*. The third constituent was localized more deeply but much less definitely than the others. Its localization seemed to change from one area to another and it was also as a rule unpl. Attn wandered from one constituent to the other but they were all in C. when they were once distinguished. (Mostly introspective.)

29/5/16.

*Expt 154: T 6 aff. (class B II)*

In the foreperiod some unpl. Sns from the muscles of the arm. The position of the arm seemed to be a strained one, giving rise to a slight discomfort, which consisted partly of unpl. strain Sns and partly of a tendency to twitch or jerk the fingers, which was both uncomfortable and slightly annoying. This gave rise to a slight mood of irritation which

persisted during the early part of the main period. The actual st. gave rise to pressure and P. Sns of a very complex and constantly changing character. The P. was partly of the nature of prick and partly of the nature of smart. The former was clearly localized in a series of constantly moving points; the latter was diffused over a fairly wide area and persisted for some little time after the removal of the st. from any area. Both were unpl., the former slightly, the latter considerably. The pressure Sns were often indifferent but seemed to be intimately associated with certain emotional states which appeared from  $\eta 9.$  time to time. These states were sometimes of the nature of irritation, in which case the  $\eta 1 & 7.$  st. itself appeared to be irritating and annoying, sometimes of a nature of exhilaration, in which case the st. appeared to be bracing, strengthening, producing much the same effect as the plunge into a cold bath. This bracing effect with its concomitant emotion became more predominant towards the end, but also became more definitely attached to the pressure elements of the Sn only. The P. persisted in C. but seemed to have nothing to do with the emotion. (Predominantly introspective.)

*Expt 155: T6 eg. (class B II).*

The Sn was at first a blur out of which I gradually distinguished various elements. First, the general ill defined and badly localized pressure which seemed to extend more or less over the whole area affected. Secondly, a series of moving points giving rise to punctate pressure Sn. Thirdly, prick or P. Sns of much the same nature as the previously named punctate pressure Sn and fourthly, the smart, which was distinctly disagreeable, very badly localized, which persisted long after the removal of the st. Sometimes one, sometimes another of these elements was most predominant in C. Occasionally they all seemed to become fused in a comparatively homogeneous mass of Sns. This seemed to be the case in moments of relaxed attn. On one occasion the smart seemed more or less to monopolize C. and the Unpre connected with it became very marked, and this in turn gave rise to tendencies of movements in the arm, and also muscular Sns from the face. It required a considerable effort of attn to distinguish the four above named elements of the total Sn  $\beta 1.$  and during the early part of the expt, as well as during subsequent periods of relaxed attn, there was some Unpls connected with the lack of success of the analysis. During one of these periods of relaxation I had the aud. motor images and the words: "this is just like sand-paper," together with the thought corresponding to the words "the Sn is just that caused by sand-paper, therefore there is nothing more to be said about it and one cannot analyse it further." (Chiefly introspective.)

*Expt 156: T6 en. (class B II).*

There was throughout the expt an alternation of attn between the Sns produced by the st. and muscular Sns, predominantly those from the left arm. This alternation seemed to correspond to an alternation between a predominantly eg. and a predominantly en.  $\delta 8.$  attde. The Sns produced by the st. were unpl. throughout and this Unpls seemed comparatively unaffected by the above mentioned alternation of attde. When attn was directed principally to the muscular Sn from the arm the eg. side of the Sn aroused by the st. were reduced to a minimum, but the Unpre remained scarcely weakened. During the periods of en. attde the muscular Sn from the arm and the Unpls of the Sns from the st. were the clearest things in C., but in the background of C. there were muscular Sns from many other parts of the body which seemed to be quite absent during the period of eg. attde. These  $\lambda 1.$  diffused muscular Sns seemed to some extent vaguely fused into a total attde of activity, which was markedly different from the more passive attde of the periods of attn to the  $\eta 9.$  eg. side of the Sn and produced an emotion of suppressed irritation which made the periods of en. attde a good deal more unpl. than those of eg. attde. I once had the idea accom-

panied by vague vis. image of moving the arm upwards and jerking away the st. (More retrospective than before.)

31/5/16.

*Expt 157: A 1 en. (7 sees) (class B II).*

Considerable tension in foreperiod. A slight start when the Sn began. The Sn itself was distinctly pl. and soothing in character, but for the greater part of the time was rather in the background of C. Throughout almost the whole of the main period there were considerable muscular Sns from almost every part of the body, and it was these Sns that were perhaps the most prominent thing in C. Vague ideas of movement occurred.

- λ 1. from time to time; ideas of lifting the head, the arms or the trunk and on one occasion the idea of getting up from the chair. These were in some cases accompanied by faint and fleeting vis. images. On one occasion, soon after the beginning of the expt, a noise was heard which produced a momentary distraction and was followed by irritation of considerable i. but of short d. During the latter part of the expt my attn was chiefly devoted to
- β 2. the muscular Sns. I experienced a kind of impotency which was rather unpl. It seemed to rise out of, or depend upon, the ideas first, that the en. attde demanded action and secondly, that under the circumstances nothing could be done. These ideas were for the most part present only in a vague form. Once I had quite explicitly the thought: "There is nothing I can do in this expt." (Mainly introspective, about 3:4.)

*Expt 158: A 1 aff. (7 sees) (class B II).*

Less tension in foreperiod than before. Very slight start on first perceiving the sound. The Sn rapidly became very pl. and I gave myself over to the passive enjoyment of it.

- γ 1. This enjoyment was accompanied by a slight mood of repose and by rather marked but ill localized visceral Sns which were distinctly pl. After a time I became aware of a disturbing Sn from the throat which was distinctly unpl., both as a Sn and because it interrupted the enjoyment. This interruption gave rise to some annoyance. There followed other unpl. and disturbing Sns from the region of the thorax and gradually these Sns became more and more prominent while the aud. Sn and its Plre receded correspondingly into the background of C. Suddenly I realized that I was experiencing the Sns of breathlessness and I voluntarily determined to breathe. The ensuing inspiration was accompanied by some diminution of the Unpls of the Sns and later the Sns themselves changed in character and became less pronounced and receded more into the background, but seldom quite vanished. The aud. Sn meanwhile came even more into the foreground of C. and was almost, if not quite, as pl. as before. The mood and the vis. Sns previously mentioned also returned, but were both less marked than on their previous expe, and correspondingly less pl. (Both introspective and retrospective.)

*Expt 159: A 1 eg. (7 sees) (class B II).*

In the foreperiod some annoyance caused by noise. This annoyance had not yet disappeared when the aud. Sn first arose, but continued to die down fairly rapidly. The instructions recurred to C. as soon as this emotion had disappeared. They recurred in the form of a thought in which I could distinguish no images of any kind. There followed a more vigorous direction of attn to the aud. Sn which for a short time occupied C. to the exclusion of almost everything else. Then the thought occurred as to whether it was possible to distinguish any overtones, and attn continued to be directed vigorously upon the aud. Sn, but with the definite end in view of detecting overtones if there were any, whereas formerly there was no end of any kind in view, merely attn to Sn as such. For a very short period I thought I could distinguish at least two tones, but then a period of doubt ensued: First, because I thought I could no longer hear any overtones, then, because I thought that it was unlikely that any overtones could be distinguished, particularly as

the fork was not now vibrating very strongly. This latter thought coincided with a considerable lessening of the attn given to the aud. Sns, whereas the previous thoughts seemed

κ 1. not to have interfered with the attn. Then ensued a period of generally diminished attn during which the aud. Sn became distinctly pl., whereas before it had only been slightly pl. I became aware also of lessened muscular strains throughout the body. Then the thought occurred: "This is the aff. attde you have now adopted, you must make an effort and resume the eg. attde." This thought was for the most part wordless but there were a few scattered aud. motor images of certain words. There ensued an effort to adopt the former, i.e. eg. attde. This effort was accompanied by increased muscular Sns from all parts of the body and these muscular Sns were for a moment the most prominent thing in

κ 3. β 3. C. This effort was distinctly unpl. The Unpls seemed to be connected with ideas of abandoning the more pl. aff. attde. At the moment of making the effort, the st. was removed. (More retrospective than before.)

5/6/16.

Expt 160: O 4 eg. (class B II).

Repeated to myself instructions in the foreperiod. As soon as the Sn appeared it was unpl. and this Unpls rose rapidly in i. until it attained a very high degree. The f.t. was

δ 19 quite the most prominent thing in C., and somewhat in the background was the Sn itself, with which however the f. seemed to be fairly intimately fused. This state lasted for some time with very little alteration. Then the instructions recurred to C. and I determined to

κ 1. adopt a more eg. attde, to pay more attn to the Sn and less to the f.t. For a brief moment the f.t. did become much less clear in C., but then it recurred again with, if possible, in-

η 6. creased i., and aroused a definite emotion of disgust which had not been present before. I thought also at this time, that it was quite impossible to carry out my previous determination in a satisfactory manner. This thought was followed, or perhaps accompanied

β 2. by, a sense of impotence and helplessness which was distinctly unpl., but which only lasted for a short time. There succeeded the thought corresponding to the words: "I could not really be expected to adopt a eg. attde." The definite abandonment of any att-

β 4. tempt to adopt the attde was slightly pl. It seemed to be a kind of relief and I believe that I thought very vaguely that I could now give more expression to my f.s. All this time the

λ 1. γ 2. Sn continued to be extremely unpl. I now noticed actual movements of the head and tendencies to movements in other parts of the body. Also sudden and rather violent exspirations from the nose. All these movements seemed to be nearly if not quite in- voluntary, but the perception of them occupied a prominent place in C. and was somewhat

β 4. pl. It seemed to afford relief from the Unpls of the smell and at the same time to give vent to some irritation directed against the smell which had been slowly arising during the latter part of the expt. (Introspection and retrospection, more retrospective.)

Expt 161: O 4 aff. (class B II).

Considerable tension in foreperiod. The general state of mind rather similar to that I have experienced when about to take a dose of medicine or to plunge into very cold water. The Sn was extremely unpl. from the very beginning, though I detected a slight rise in i. of Unpls during the first half-second or so. C. was remarkably uniform during the greater part of the time. The three principal contents being: (1) the extreme degree of Unpre; (2) the Sn itself to which the Unpls was attached or fused to some extent, but rather less intimately than in the previous expt; (3) muscular Sns from nearly all parts of the body, especially from the arms. There was perhaps in addition a slight f. of Plre in the general mental attde. It may perhaps have been connected with the muscular Sns or perhaps with some very vague thought of my own courage, but this was much in the background of C. and very obscure. The Unpls, the first of the above factors, suffered several rather marked

and rapid fluctuations towards the end of the expt, rapidly > in i. and then rapidly returning to their former strength. I am inclined to think that these fluctuations were  
 δ9. accompanied by similar fluctuation in the i. of the olf. Sn itself, but not quite certain.  
 At any rate these fluctuations were the only marked changes that took place in C. until the very end of the expt, when I suddenly became aware of movements of the head and of violent exspirations. The Unpls continued for some time after removal of st. and in this  
 η6. afterperiod there was an emotion of disgust which had been absent before. (Mostly retrospective.)

*Expt 162: O 4 en. (class B II).*

I thought of instructions in foreperiod. General attde of tension with strong muscular  
 β2. Sns from the whole body and particularly the arms. This attde was slightly pl. When  
 δ4. the Sn entered C. it was unpl. in itself, but the Pls of the general attde continued. Throughout the expt the muscular Sns were very prominently in C., often more so than the olf. Sn, which was distinctly less unpl. than before. I had almost throughout a vague sense of mastery over the whole situation, and the st. in particular, which sense of mastery was distinctly pl. This sense of mastery was a complex mental state which may perhaps be described as a mood in which vague thoughts (which seemed quite imageless), muscular Sns and f.ts played part; in fact, it includes almost everything in C. except the olf. Sn and its f.t. Once the olf. Sn and its f.t. dropped out of C. entirely for a short period and then  
 β3. returned. This gave rise to the thought that I had stopped inspiring and that I ought to go on inspiring in order to expec the Sn. This thought was accompanied by aud. motor images of the word "breathing" and by slightly unpl. f.t. connected with the fact that I seemed to have committed a breach of the instructions. (Mostly retrospective.)

7/6/16.

*Expt 163: V 1 aff. (5 secs) (class B II).*

The col. was pl. the moment I saw it. At first there seemed to be a Plre that resided  
 ξ3 - in the Sn alone. Later there was also a pl. mood of tranquility or repose, the Plre of which,  
 ξ4. however, was not very clearly separated from that of the Sn itself. Soon after the beginning of the expt attn was distracted by some unevenness of the colouring. There were a few patches of blue of a darker shade than that of the rest of the paper and the presence of these patches was unpl., they seemed to be of the nature of impurities and I had a wordless  
 β3. thought to that effect. Then I thought that after all the blue of these patches was in itself quite pl. and the Unpre at the presence of the patches diminished considerably, but persisted in some degree as long as I was distinctly aware of the existence of the patches. About the middle of the expt attn was distracted by an unpl. Sn in my right ankle. There followed some irritation vaguely directed against the chair for having caused the unpl. Sn, and the consequent distraction. When attn returned to the col. I had the thought that I was not perhaps following the instructions as regards the aff. attde and I determined, if possible, to adopt a more aff. attde. From that moment the Plre in the col.  
 β2. increased appreciably, but the mood changed somewhat in character, from one of repose to one of slight exhilaration, which at the end of the expt became markedly pl. At this time I also became c. of muscular Sns from the arms and the legs and of vague Sns from the throat. A moment later I also became aware that I was holding my breath. This  
 δ3 & 1. was at the very end of the expt. There was then in C. Plres from the vis. Sn, from the mood and from the muscular and org. Sns, which Plres were only imperfectly fused, but which together produced an exceedingly agreeable total state of mind. (Both introspective and retrospective.)

*Expt 164: V 1 en. (5 secs) (class B II).*

Repeated instructions energetically in the foreperiod. Upon seeing the col. I was  $\xi 3$ , immediately struck by its Pls and the mere sensory Plre was soon followed by a pl. mood of repose. The instructions then recurred and this was immediately followed by the  $\alpha 3$ . entrance into C. of muscular Sns principally from the arms. These muscular Sns were distinctly pl. The thought then occurred that the mood of repose induced by the col. was not calculated to produce action, and that there was therefore some difficulty in adopting  $\beta 2$ . a en. attde. The C. of this difficulty was distinctly unpl. I felt what can perhaps be best described as a f. of mild paralysis brought about by the conflicting tendencies produced in me by the col. and the instructions respectively. This state of paralysis gradually  $\gamma 1$ . changed its character somewhat, becoming little by little a state of tension accompanied by unpl. muscular Sns, especially from the region of the forehead. This state of tension  $\kappa 1$ . diminished in turn towards the end of the expt and a greater amount of attn was given to  $\delta 4$ . the vis. Sn, the Plre of which increased considerably and which co-existed to the end with the now diminishing Unplre of the state of tension. (More retrospective.)

*Expt 165: V 1 eg. (5 secs) (class B II).*

Repeated instructions vigorously in foreperiod and they were still prominently in C. during the early part of the expt. The col. was pl. from the beginning but much less so than in the previous expts. I then thought of myself as observing the col. in a coldly critical way and the words: "coldly critical" occurred to C. as aud. motor images. There  $\eta 14$ . was a slight but characteristic emotion accompanying this thought, an emotion which I have often experienced before, but which is very specific in character. I then became c. that I was moving my eyes over the paper in an attentive manner with the object of discovering any part of the surface that presented any peculiarities of interest. The marks of deeper blue on the paper then entered prominently into C. for a brief moment, and I recognized them as being the same as those I had noticed in a previous expt. I also vaguely thought that on this previous occasion they had given rise to a marked f.t., whereas on the present occasion they appeared absolutely indifferent. Attn was then suddenly arrested by a small bright line on the surface of the paper, and I had the thought that it  $\beta 1$ . was caused by a small fold in the paper. There was slight Plre in this realization of the cause of the bright line. The attn given to the bright line then gradually diminished and eye movements recommenced. Immediately after this I became aware that a large portion of the surface of the paper had become a much less saturated blue than the remaining portion of the surface. This caused some surprise but a moment later I had the thought that this was caused by adaptation and movements of the eyes. I had in C. the aud. motor image of the word "after-image." At this moment the expt ended. Towards the end the Plre in the vis. Sn had almost, if not completely, disappeared from C. (Both introspective and retrospective.)

8/6/16.

*Expt 166: G 2 en. (1 drop) (class B II).*

Considerable tension and expectancy in foreperiod. The drop was first perceived as cold, then the taste quality gradually developed and it was very pl. Then I thought the drop was very small and wondered whether another one would come. I then noticed  $\eta 4 & 9$ . that the bottle was being removed and experienced considerable disappointment, which quickly changed somewhat into slight irritation. I had the idea of calling out, "this drop is too small, give me another one," with strong aud. motor imagery, muscular Sns from the region of the mouth and from the arms being also prominent at this moment. This tendency to cry out was inhibited by the thought that the drop was after all perhaps large enough for the purpose. There followed a short period of more or less passive contempla-

tion of the gust. Sn which was at first purely pl., but which afterwards acquired an unpl. element in the shape of a bitter Sn. This unpl. element in the Sn gave rise to a slight and  
 7.9. very transient irritation accompanied by the vague thought that it was too bad that there should be unpl. elements in the so-called pl. Sn. The thought was quite wordless. The instructions then occurred to C. and in endeavouring to adopt a en. attde I had an unpl.  
 8.2. expec of not knowing exactly how to set about it. This Unpls, though not very intense, was the most prominent thing in C. for some time. The gust. Sn and its f.t. being now in  
 8.3. the background. Gradually I became aware of muscular and cutaneous Sns from the fore-  
 8.15. head caused by wrinkles. These Sns were unpl. but the Unpls seemed closely associated with that of the difficulty about the attde. I then became aware of muscular Sns in the arms and I had the thought that muscular Sns often play an important part in the en. attde and that I should perhaps be fulfilling the instructions if I attended to these Sns. This thought produced some satisfaction and I proceeded to direct attn to the muscular Sns from the arms. (Both retrospective and introspective.)

*Expt 167: G 2 eg. (I drop) (class B II).*

Some tension in foreperiod which actually increased during the early moments of the main period. The drop was first perceived as cold and then as a gust. quality, the coldness completely vanishing from C. at this moment. Very soon the gust. Sn became pl. and I made a judgment to that effect with and. motor imagery of the words "it's pl." Attn was very keenly directed to the gust. Sn and I noticed that it was now moving along the tongue and gradually changing in character as it did so, though the part originally affected still retained the same character. I had a vis. image of a liquid flowing along the tongue. I vaguely thought that I would try and see if I could recognize any nameable qualities, such as sweet and bitter, etc., but I found that I was quite incapable of naming or describing the difference in the Sn over the different areas. I thought also that on a previous occasion I had distinguished bitter, and was mildly surprised at not finding that quality now. This period of very close attn to the Sn was interrupted by attn being distracted by a noise outside, and for some period after this the gust. Sn was very little in C. Attn wandered idly over various things, chiefly vis. and and. Sns from the room and I felt an  
 7.1. aversion to making an effort to bring back the attn to the st. This state of distraction was slightly unpl., first, because there was some irritation against the distracting cause, secondly, because I was dimly c. that I ought to be attending to the gust. Sn. Attn at length returned and this return was accompanied by the presence of muscular Sns in C., particularly from the arms. I was surprised to note that the Sn had now changed in character considerably and that it was also spread over a wider area than before. There were now two main qualities of the Sn: a slight bitter Sn from the back of the mouth and a predominantly sweet Sn from the front of the mouth. The bitter Sn was slightly unpl., the sweet Sn distinctly pl. At one time I thought I detected an area of approximately indifferent Sn between the two. The Sn on this area, when it was definitely in C., rather resembled that caused by plain water. (More introspective than usual, very nearly all.)

*Expt 168: G 2 aff. (class B II).*

Tension in foreperiod. Sn was first one of cold, then the coldness vanished and for a time there seemed to be a tact. and a very faint gust. Sn, which were absolutely indifferent.

Attn was very keenly directed to these Sns and the presence of this indifference caused a  
 7.13. mild surprise. The gust. Sn then became more intense and also began to get pl. As soon as Plre arose it increased rapidly for a short time and then remained on the same level.  
 7.4. I then felt disappointment that the drop was not larger and the gust. Sn and Plre corre-  
 7.9. sponding more intense. This disappointment was followed by slight irritation directed against the experimenter and the vague thought that he was stingy and that if he had

squeezed harder a larger drop would have come out. This thought was quite wordless, but accompanied by some fleeting vis. imagery of the dropping tube with red fluid inside it and a hand pressing only very lightly on the rubber bulb. This thought passed away

$\beta$  2. gradually as did also the irritation and gave place to a period of passive contemplation of the Sn which was distinctly pl. Then again the thought of the smallness of the drop occurred to C. causing dissatisfaction. A moment later I was distracted by a totally different gust. Sn, in itself indifferent or very slightly pl. in character, but which caused

$\eta$  1.  $\gamma$  1. some very slight annoyance because it had distracted me. I soon recognized this Sn as being that of biscuit and this recognition was accompanied by vague vis. image of a brown biscuit. Attn gradually returned to the st.-Sn, though the biscuit Sn remained for some time in the background of C. There was a new period of passive contemplation of the st.-Sn which was distinctly pl., but which was soon again interrupted by the thought of the smallness of the drop and the same dissatisfaction that I had experienced before. (Retrospective and introspective.)

9/6/16.

*Expt 169: P 3 eg. (3 secs) (class B II).*

Repeated instructions vigorously in foreperiod, but this did not prevent there being  $\eta$  8. an emotion of fear in the background of C. The Sn was at first indifferent and at the moment of first perceiving it I once more vigorously repeated the instructions with the thought corresponding to the words: "Here it is, be careful and adopt the right attde."

$\eta$  7. The background of fear still persisted and there was besides a considerable excitement and tension. The Sn then changed its character and became definitely painful and unpl. The Unpls increased rapidly. I had the thought that I must examine and try to analyse the Sn and I suddenly recognized a heat Sn. This recognition was accompanied by a strong aud. motor imagery of the words: "Yes, there's heat," spoken quickly. Then for a time the Unpls of the Sn, and the fear which had now increased considerably were the chief things in C., though vague muscular Sns were in the background. These muscular

$\lambda$  1. Sns seemed connected with a tendency to shrink away with hand and whole body from st. and also with a tendency to draw in the limbs so as to bring the body into as small a

$\eta$  1. compass as possible. The fear gradually became complicated with an element of anger, which seemed to seek a vague outlet in an atactic violent movement of the body. I think I had a very vague vis. image of myself kicking out with arms and legs. There was also a tendency to cry out. This tendency seemed to be an expression both of the anger and the fear. This period was followed by an attempt to control myself and to bring the attn once more to bear upon the quality of the Sn. For a moment I thought I could detect at least two qualities; one a sharp stinging P. with which was perhaps associated an element of heat, the other a less intense and, I think, more deeply localized Sn which was but little, if at all, painful and unpl. This attde only lasted a very short time and was swamped by emotion of fear and anger. A chaotic state made up of a kaleidoscopic interplay of fear, anger, painful Sn with its attendant Plre and Unplre and muscular Sn lasted from now to end of expt. (Retrospective.)

*Expt 170: P 3 en. (3 secs) (class B II).*

Considerable tension and fear in foreperiod. The Sn was at first indifferent but rapidly became painful and unpl. Repeated instructions which had vanished from C. at the moment of incidence of st. Muscular Sns immediately became very prominent in C., particularly those from the right arm. These gradually became slightly less pronounced and there appeared in C. a fairly strong emotion which seemed to oscillate rapidly in character

$\eta$  1 & 8. between anger and fear. The Unpls of the Sn continued to be quite marked. The anger in the emotion gradually increased at the expense of the fear though a certain amount of

fear still persisted. Then suddenly I had marked muscular Sns from the left arm, these were followed by the idea of jerking the arm rapidly sideways and so getting rid of the st. The emotion of anger reached its height at this point and was accompanied by a fairly vivid but shortlived vis. image of moving the hand sideways. There ensued a state of  $\eta$  7. considerable excitement and tension and vague thoughts that I must not do this, the emotions of fear and anger having now considerably diminished. The instructions recurred to C. and the muscular Sns from the right arm again became very prominent. Muscular Sns from other parts of the body then became prominent too and for the rest of the expt these occupied the focus of C. The P. being somewhat in the background was still distinctly unpl. At the very end of the expt vague thoughts of getting up, and doing something violent, I think, knocking over the chair occurred. These thoughts were accompanied by equally vague vis. images. (Retrospective and introspective.)

*Expt 171: P 3 aff. (3 secs) (class B II).*

In foreperiod I was annoyed by interference with the mental repetition of instructions by Sns connected with breathing. The st.-Sn seemed painful and unpl. almost from the first, and from the moment of incidence of the st. there was a rapid increase of excitement accompanied by marked muscular Sns and feeblower viscerals Sns, the latter being very much in the background. I had the thought corresponding to the words: "Yes, there are muscular Sns in this attitude too," accompanied by aud. motor imagery of some of these words. Then attn turned more exclusively to the st.-Sn and during the rest of the expt it was much the most prominent thing in C. The P. and its Unpls seemed to fill C. almost to the exclusion of everything else, except perhaps vague muscular Sns, chiefly from the right arm. The Unpls of the Sn was very great, though it seemed to be connected almost exclusively with one element of the Sn, viz. the smarting P. There was another element of the Sn sometimes distinguished from this which was little, if at all, unpl. and was perhaps  $\theta$  5. more of the nature of pressure than of P. It was localized differently from the smarting P., but I cannot say in what direction this difference lay. During this period I once had the idea of moving the mouth or shouting, accompanied by muscular Sns from the lower part of the face, but these were very fleeting. There was perhaps besides the P. and its Unpls a vague emotion connected with the idea of submission which perhaps at moments was very slightly pl. Once I had very distinctly for a brief moment an aud. motor image of the word "suffering," but all this did not seem appreciably to interfere with the prominence in C. of the Sn and its f.t., except quite momentarily and even then very slightly. (Introspective and retrospective, more the latter.)

#### THE INFLUENCE OF ATTN UPON F.

12/10/16.

(Expts 172-181: Class C)

*Statement.*

I have on the whole a fairly open mind on the matter. From some rough introspection in ordinary life I am inclined to think that attn to a f. intensifies the f., but I am quite prepared to revise the opinion, firstly because the observations were made under not very favourable circumstances and secondly, because they were made on P. or discomfort Sns and I think it possible that I may have mistaken an increase in the i. or clearness of the P. for an increase in the i. of the unpl. f.

*Expt 172: Alternation of attn to eg. content and of attn to aff. content of C. (T 2) (class C).*

During attn to eg. side of the expt the f. was usually in the background of C., during  $\kappa$  1. attn to the aff. aspect of the expt I think it is correct to say that the f. became more

intense. It was also clearer in C., no longer in the background. The eg. aspect was still, however, fairly prominently in C., but in a comparatively undifferentiated form. The  $\alpha 3$ . increase in the i. of the f. was always, or at any rate nearly always, accompanied by org. Sns which seemed to be totally absent during attn to the eg. aspect. These org. Sns were  $\delta 17$ . very pl., but I believe this Pls was usually distinguished from that of the tact. Sn.

*Expt 173: Alternation of attn to aff. content and of relaxation of attn (T 2) (class C).*

The i. of the f. is still increased by attn to it. The clearness of the Sn is also increased by attn to the f. During relaxation both the Sn and the f. were often in the background of  $\zeta 3$ . C. There was, however, a tendency to expe a mood during relaxation. This mood was  $\kappa 1$ . pl., but the Pls was quite distinct from that of the tact. Sn during moments of attn. In relaxation I cannot say I distinguished the Plre of the Sn from that of the mood. The whole eg. side of C. was very dim; C. on the whole seemed to be much more aff. than eg.  $\kappa 5$ . The mood seemed to be to a great extent cast off during the attn periods.

*Expt 174: Alternation of attn to eg. and attn to aff. content (emery cloth) (class C).*

The f. increased in i. during moments of attn to the aff. side. During these moments  $\kappa 1$ . the eg. side of the expe continued to occupy a large part in C., but were much less differentiated. During these moments also I was frequently aware of a strong tendency to withdraw the hand. This tendency was accompanied by a distinctly unpl. emotion of fear—fear lest the Sn should become more intense and unpl. This tendency and the accompanying emotion seemed to be totally absent during moments of attn to the eg. side. Org. Sns  $\alpha 3$ . were present with both attdes but always very much in the background of C. They did not seem to have any aff. tone of their own, but were perhaps slightly more prominent during the periods of attn to the aff. side.

*Expt 175: Alternation of attn to aff. content and relaxation (emery cloth) (class C)*

The f. became more intense during attn to aff. side. The Sn, however, also becomes  $\kappa 5$ . more prominent. During the relaxation periods there is a tendency to fall into a mood of  $\alpha 3$ .  $\zeta 1$ . resignation accompanied by vague org. Sns which do not seem to have any marked f., both the tact. Sn and its f. retired into the background of C. during the relaxation periods. Sometimes, however, the relaxation periods were involuntarily brought to an end by the sudden appearance of a sharp P. Sn accompanied by momentary extreme Unpls. The emotion  $\eta 8$ . of fear and the tendency to withdraw the hand were a good deal less marked and were usually quite absent during the period of eg. attn.

13/10/16.

*Expt 176: Attempt at analytical attde regards f. (emery cloth) (class C).*

I could not get into any attde of analysing the f. As soon as I attempted to analyse I found myself attending to specific Sns. The f. belonging to these specific Sns frequently became more intense than during the attn to the f. But the f. of the Sn as a whole undoubtedly became less intense. The attde of analysis seemed to be very similar to and possibly  $\beta 1$ -. identical with the eg. attn in the previous expts. I definitely failed to get into any such attde of analysing the f. The failure to get the attde was unpl. Sometimes there seemed to  $\eta 4$ . be a complete blank, at other times strain Sns and an emotion of dissatisfaction were the most marked contents of C. and out of this the eg. attns suddenly developed.

*Expt 177: Attempt at analytical attde regards f. (T 2) (class C).*

I quite failed to obtain an attde of analysis of the f.—when I tried to get such an attde, strained Sn, a Sn of dyspnoea or an emotion of dissatisfaction as before. Eventually I would find myself attending to some eg. constituent of the expe. I noticed also that the f. became intensified when attn was directed to it, as compared with moments of relaxation. But this attn to the f. was quite different from the attempt to analyse the f.

*Expt 178: Alternation of attn to aff. content and relaxation (A 3) (class C).*

The f. attaching to the Sn is intensified during the period of attn to the f. Concomitantly with this increase of f., there sometimes went an increase in the i. of the org. Sns (which were present all the time) and an increase in the f. of these org. Sns. In the relaxation period there was usually present a mood of "mystery and contentment" which was  $\kappa 5.$   $\xi 1.$  distinctly pl. This mood was associated with the Pfre of the org. Sns which were just as clear in C. as during the moments of attn but which were slightly less intense than in such moments. Both the eg. and the aff. aspects of the aud. Sn became less clear and intense, as soon as the relaxation began. The total aff. state was about equally pl. in both cases,  $\mu.$  the Pfre of the mood compensating for the decreased Pfre of the aud. Sn.

*Expt 179: Alternation of attn to eg. and to aff. contents (A 3) (class C).*

The f. is more intense during attn to the aff. elements, though the difference is not very marked. During eg. attn I became very c. of the intermittent character of the sound which was totally lacking during the periods of aff. attns. The eg. attn is distinguished by greater c. than is present in the aff. attn and by more intense and widespread strain Sn.

18/10/16.

*Expt 180: Alternation of attn to eg. and to aff. contents and relaxation of attn (A 5, noise) (class C).*

The f. is most intense with attn to the f. though it remains fairly intense during eg. attns. There is very little f. during relaxation. During eg. attn strain Sns are fairly prominent. During aff. attn there are fairly prominent org. Sns as well as strain Sns. I repeated these attdes fairly often and feel quite sure as to these points. There is also much greater differentiation of the elements of the Sns during eg. attn than there is during aff. attn.

*Expt 181: Critical attde regards f. (A 5, noise) (class C).*

Very considerable strain. I began each attempt with ordinary aff. attn during which the f. was prominent. On attempting to obtain the required attde there was a period of strain which resulted in intermittent withdrawal of the Sn and its f. from the foens of  $\gamma 1.$  C. and in consequence diminution of the f. This period of strain was distinctly unpl. and the content of C. changed very rapidly. After a time I found myself attending either to some org. Sn or Sns (sometimes in a eg. and sometimes in an aff. way) and sometimes attending to the aud. Sn in a eg. way. The thought would then occur that I was not attending to the f. of the aud. Sn as the instructions required and I then returned to the condition of strain and tension already described. I never once got the required attde. The attempt to get it always resulted either in eg. or aff. attn to org. Sns or to eg. attn of the noise.

## AN ACCOUNT OF THE DIFFERENT ATTITUDES.

1/11/16.

*Statement.*

By attn I mean, I think, in every case "prominence in C." By attending to a particular aspect of the expe I mean making that aspect prominent in C.

In the foreperiod of the expts with eg. attn there is a decision to make prominent the Sn itself. In the actual expts this attde usually produces also a differentiation of the Sn which is split up into its component parts, sometimes one component, and sometimes another being momentarily most prominent in C. and being also recognized for what it is. E.g. in a tact. Sn I may discover thermal, painful and pressure elements. This analysis, however, is not intended, i.e. is not present as an intention in the fore-period or during any part of the expt in which I may recall the instructions, nor is there any intention of producing prominence in C. of the eg. elements at the expense

of any other elements, though this is usually also a consequence of the attde. If during this attde I find that the f. is more prominent in C. than the eg. elements I make a voluntary effort to restore greater prominence to the eg. elements.

In the foreperiod in the expts with aff. attn I will to make the aff. elements the most prominent in C. In the course of the expt I try to restore prominence to these elements should I find that they have lost it. By aff. elements I understand the Plre and Unplre occasioned by the st., the Plre and Unplre of any org. or kinesthetic Sn that may be aroused during the expt, and also any emotions that may be similarly aroused.

In the foreperiod in the expts on the indifferent attde I determined to prevent irrelevant Sns, thoughts, f., etc., from becoming prominent in C. and to keep the relevant Sn in C., but otherwise to reduce all effort to a minimum. During the expt there is very little differentiation of the eg. elements of C. and, as a rule, I think, C. tends to be more aff. than eg., though I don't think the f. is ever very strong. There is much less muscular strain than in any of the other attdes.

The determination in the foreperiod of the critical or analytical attde is not very precise. In the main there are two elements which are most prominent. First, the idea of analysing and differentiating the f.,—splitting it up into its component parts—and secondly, the idea of getting beyond it, or discovering its real nature. This latter idea is, I believe, often accompanied by some vis. image which seems to help to make the idea clearer. Thus, e.g. two concentric circles the outer one of which is broken through by some object which thus attains to the centre circle, which represents the "real essence" of the f. There is invariably great strain with fairly prominent muscular Sns, this strain being sometimes markedly disagreeable. During the course of the expt I am frequently trying to throw out of C. certain elements (e.g. eg. aspects of the Sn itself or of accompanying org. Sns or f.s attaching to those Sns) which have become prominent, but which I recognize as not being elements, which should be prominent, if I were able successfully to adopt the attde.

9/11/16.

*Expt 182: Memory and F. (class D).*

(1) I remember distinctly being observer in an expt in which a powder puff was gently brushed up and down over my hand. The f. aroused was very pl. I can get very clear images of the Sns aroused by the powder puff.

(2) I remember distinctly witnessing a particular scene in the end of one of the acts of Debussy's "Pelléas and Mélisande," in which I derived great Plre from the music. I know very well the general nature of the music in the particular scene but I cannot recollect any of it, there is no memory image of it.

*Introspect on (1).*

Very clear tact. image of the powder puff, images of thrill-like Sns in the arm and of org. Sns. All these images are markedly pl., the Plre varying in i. according to the i. of the images. When the images died away I still knew that I was pleased but I no longer felt any Plre, whereas when the images are intense there is very distinct Plre. There seemed to me only those two alternatives: either knowledge that I had Plre, or else actual Plre accompanying the image.

*Introspect on (2).*

Fairly vivid vis. images also aud. images of words but not of music. I cannot get any Plre from the thing—Don't you want me to get Plre? I remember clearly f. Plre at the

music accompanying this scene. There are few very faint aud. images now of music, but not of the actual music of this scene. These images are approximately indifferent, nor is there any appreciable Pre in the revival of the scene, though all the time I feel convinced how pleasureable it was. I know the music was of an exciting character. This thought is followed by org. Sns from the region of the thorax. These Sns are pl. and I recognize them as those which would be present if I could revive the f. Immediately afterwards the f. itself or something that seems very similar to it did return, but it was quite faint. Accompanying it there was an emotion of excitement. The aud. images had now completely disappeared and the vis. images had become very faint.

(When the observer asked: "Don't you want me to get any f.?" I simply retorted: "I only want you to tell me what you get.")

20/12/16.

## COMPARING MEMORIES.

*Expt 183: (1) (class D). Q: Do you like Marmalade?*

A: Yes.

Some emotion of surprise. As soon as I understood the question I had a fairly vivid vis. image of some marmalade in a pot which I use at breakfast. A moment later, or perhaps simly, I had a gust. image. The gust. image was slightly pl. For a very short time these images were the most prominent things in C. and the question was in the background, but then the meaning of the question suddenly re-occurred and I thought that of course I like marmalade. The answer "Yes" was given before this thought had fully developed and was to a great extent automatic. A moment after giving the answer I felt astonished that I had reacted in this semi-automatic way.

*Expt 184 (class D).*

Q: Do you like Raspberry Jam?

A: (after hesitation) Yes.

It took a considerable time fully to understand the question. Soon I had a vague vis. image of the col. of the jam. Then the thought occurred corresponding to the words: "You really ought to consider the question more carefully this time before you answer." Meanwhile the meaning of the question had vanished from C. On endeavouring to bring the question back to C. I experienced considerable difficulty and for a time the most prominent things in C. were various strain Sns from different parts of the body especially the forehead. There was a considerable effort but I did not seem to be able fully to realize the question. The original vis. image re-occurred several times in a vague form. I then repeated to myself the words "Raspberry jam. Do you like it?" and then once more "Do you like it?" with great emphasis on the "like." The state of effort accompanying this was fairly unpl. Finally the full meaning of the question burst upon me and I immediately answered "Yes" without difficulty. At the same time there was present a vivid and clear image of raspberry jam in a glass jar.

*Expt 185 (class D).*

Q: Which of the two do you like better?

A: (after a while) Raspberry Jam.

I repeated the words of the question to myself and after doing so I obtained the meaning of the question fairly clearly, though while actually repeating the words they had comparatively little meaning. On realizing the question I had a fairly vivid vis. image of Marmalade and then of Raspberry Jam. These images then recurred in the same order, this time with gust. images which were in both cases slightly pl. Finally I had a somewhat vaguer image of both marmalade and jam standing together on a white table cloth. I then

thought that my preference depended upon circumstances and that I would choose sometimes one, sometimes another. This was all in imageless thought, but I had at the same time rather insistent verbal images of the words "that depends." I then thought that I must give a definite answer, and this thought was accompanied by an unpl. f.t. connected with the fact that I found it difficult to decide. There followed a period of < effort with considerable muscular tension. This effort was somewhat unpl. I then thought that it would be quite right to say which I would prefer at the present moment. This thought brought considerable relief which was slightly pl. I then went on to think that in general I preferred marmalade for breakfast and jam for tea and that now being tea-time I ought to prefer jam and then I asked myself "Do I prefer jam?" and had vivid vis. and gust. images of jam which were distinctly pl. and were accompanied by slight watering of the mouth. I then thought "Yes, there is no doubt that I prefer jam," and replied accordingly. At the moment of reply there was considerable Pfre which seemed to attach partly to the  $\beta 2$ , still persisting gust. image, but principally to the fact that I had come to a definite decision.

In the first part of the expt when I thought it depended upon circumstances there did not seem to be any direct comparison of the Pfre themselves, but rather an appeal to knowledge. Right at the end when I came to a definite decision there was some direct comparison between the Pfre I was then experiencing in connection with the gust. image (a Pfre which *meant* the Pfre I usually expect with raspberry jam) with the "knowledge Pfre" of eating marmalade as I estimated it usually to be. This estimation of the Pfre of eating marmalade was a purely eg. process. There was no Pfre actually in C. as there was in the case of the image of the raspberry jam taste.

17/1/17.

Expt 186 (class D).

Q: *Do you like Plum Jam?*

A: *Yes.*

Some surprise at the question followed by considerable muscular tension and excitement. Vague thought to the effect that I must pull myself together and answer the question. The ensuing effort to understand the question slightly unpl. Then followed a vivid vis. image of plum jam with stones in it. This was slightly pl. and seemed soothing after the previous emotion. Then came an image of tact. Sn of stone of a plum between the teeth and a much slighter gust. image of plum jam. The gust. imagery increased in i., though in doing so it became in some way fused with the tact. image of the stone. The combined image gradually became distinctly unpl. and was then accompanied by the thought: "No, I don't like this," with vague and fleeting verbal images. There was even present slight Sns of nausea which were quite unpl. About this time there began to develop gradually a vis. image of strawberry jam and also, I think, a somewhat vaguer vis. image of marmalade. These images were pl. and I found myself comparing the Pls of strawberry jam and marmalade with the Unpls of plum jam. Then I thought that I was not asked to compare plum jam with other jams but to state the absolute Pls or Unpls of plum jam. I went on to think that plum jam was not in itself unpl., only less pl. than strawberry jam and marmalade. The images of strawberry jam and marmalade then vanished and I experienced a very vivid vis. and gust. image of plum jam which was distinctly pl. While experiencing this image I answered "Yes."

Expt 187 (class D).

Q: *Do you like Black-currant Jam?*

A: *Yes.*

Considerable tension in the foreperiod which lasted a short time after the question had been asked and then gradually died away. I understood the question fairly soon, but

its complete comprehension was soon interfered with by the appearance of vivid vis. and gust. images of black-currant jam. The vis. image was distinctly pl., but the gust. image did not at first seem to have any marked f.t. I turned my attn to the gnst. image with a view of discovering what the f.t. was, but still for some time it did not seem to be other than neutral in f. This caused some annoyance with increased tension which was distinctly disagreeable. I particularly noticed holding of the breath and wrinkling of the forehead, the Sns aroused by both of which were unpl. Suddenly the vis. image which had become somewhat vague appeared again very clearly and intensely and was quite pl. Immediately I had the thought corresponding to the words "Yes, of course I like black-currant jam," and a moment afterwards there was a vivid gust. image with very pl. f.t. and accompanied by watering of the mouth.

19/1/17.

Expt 188 (class D).

Q: *Arrange the four jams in order of their preference.*

A: *Raspberry, marmalade, black-currant, plum.*

Astonishment at the question, accompanied by the thought that this might be difficult. This thought was unpl. Very vague fleeting vis. images of the different kinds of jam grouped round a more stable vis. image of a vertical line with four short intersecting horizontal lines, which stood for the relative position of the four jams. I thought that the task consisted in placing, as it were, each jam on its appropriate horizontal line. Then followed a period of confusion and embarrassment, distinctly disagreeable. Then a vague knowledge that I was not quite sure what the jams were. Then it occurred to me that it was the second of the four jams I had forgotten and I asked what it was, at the same time thinking that I would have paid more attn to your original account of the previous questions if I had known that the new question was likely to take this form. This thought was accompanied by an unpl. f.t. and by an emotion of guilt. On your replying raspberry jam there occurred a very vivid and pl. vis. image of that jam accompanied a little later by a less vivid but still slightly pl. gust. image. There followed a period which I can best describe as one of pl. tension where the Plre seemed chiefly connected with the vague thought that I had the problem well in hand. It might be described as a sense of pl. semi-automatic activity. I felt that the activity necessary for the solution of the problem was going on without the intervention of my will. There were very vague vis. and motor images of placing jam pots in different positions. Then I realized that the most pl. jam was one of the first two. I had a very vivid vis. image of marmalade and a fainter one of raspberry jam. For a moment there was indecision as to which I liked most. Then unhesitatingly I decided for raspberry jam but without any direct comparison either of the Sns aroused by the jams or their respective f.t.s, though at the moment of deciding in favour of raspberry jam there was a pl. gust. image of that jam. I then immediately knew that marmalade had the next place. I then turned my attn first to the idea of plum jam and then to the idea of black-currant jam. I cannot give the details of what really happened after this, but I know that there was little or no direct comparison of the Sns or f.s aroused by the jams. As soon as I had the idea of the two jams clearly before me I made an unhesitating decision. During the whole of the last part of this expt I had a fairly clear vis. image of four small discs or circles, two to the left representing the first pair of jams and two to the right representing the second pair. The discs were connected together by a long grey horizontal line.

## OBSERVER X.

*Questions on the Experiments of Feeling.*

I have no definite view as to the co-existence or fusion of f.s in C., but have been disposed to hold that, in some cases fusion occurs, e.g. in emotions; and in some modes of excitement hardly amounting to emotion; e.g. in situations of apparent danger with real security.

This opinion has been based partly on introspection, partly on the consideration that the situation was such as might be supposed to excite both P<sub>re</sub> and displeasure, whilst the total effect could not be described simply as either.

I am not aware of holding any theory or system which would require that f.s concurrently excited should either co-exist or fuse.

22nd October, 1915.

12/10/15.

δ 7. *Expt 1: T 1* (class A 1).

St. unpl. at first application, pl. (slightly) as the stroke proceeded. Like faint tickling, unpl. on the whole, but with something in it that made me inclined to laugh, yet it seemed not on account of Pls that I inclined to laugh. Could not say precisely what it was.

η 13. *Expt 2: O 1* (class A 1).

β 4. α 1. Agreeable on the whole, partly because it was an agreeable surprise; I was wondering whether a nasty smell would come. The relief had something to do with f.t. Faintness of odour reduced value of st.

μ. *Expt 3: A 1* (class A 1).

Agreeable as far as tone, was accompanied by noise, total expe was hence below zero (indifference).

λ 2. *Expt 4: V 1* (class A 1).

Deep satisfaction, perfectly stable. Attempt to get rid of Pls is a failure.

α 3. *Expt 5: G 1* (class A 1).

Agreeable on the whole, accompanied by Sn at side of pharynx, slight spasms, which are not agreeable.

θ 1. *Expt 6: P 1* (class A 1).

Slight P. Sn agreeable, though not highly.

*Expt 7: A 4* (class A 1).

Came as near to indifference as anything could be.

λ 1. *Expt 8: V 4* (class A 1).

Unpl.: "feeling" as if one were presented with a problem in indefinite jumbled terms, wish to turn away from it.

λ 1. η 6. *Expt 9: O 4* (class A 1).

Horrid, very disagreeable, uncontrollable desire to turn and rush away, disgust.

λ 1. *Expt 10: T 4* (class A 1).

Very slightly unpl. Doubtful whether after all it was unpl. Associations came in. It seemed as if I should pull my hand away, if I had not complete confidence.

*Expt 11: V 5* (class A 1).

α 2. Very unpl. effect of glare, possibly too near eye.

*Expt 12: A 5 (class A 1).*

Immediately with Sn ideas of carpentering; cannot say to which f.t. was due. Slightly unpl. in itself though.

*Expt 13: O 5 (class A 1).*

Very faint st. Cannot say what f.t.—(applied a second time more closely) extremely disagreeable suffocating odour.

*Expt 14: T 5 (class A 1).*

Very nearly the same as T 4. Very slight degree of Unpls.

*Expt 15: G 4 (class A 1).*

δ 15. Unpl., developed very slowly and increased in Unpls and then, as it got well back over the tongue, became more distinct and less unpl., possibly due to associations. Pure taste unpl.

*Expt 16: O 2 (class A 1).*

Predominantly pl. with secondary olf. expe which is slightly nnpl.

20/10/15.

*Expt 17: V 4 (class A 1)*

α 2. First unpl. slightly, then hesitation, because brightness, st., as distinct from col., was δ 13. agreeable. Total was unpl. Aware of tendency to recollect whether I had seen col. before and what was the f. then. (No definite answer as to query about co-existence, etc.)

*Expt 18: T 2 (class A 1).*

First effect of first application was a slight Unpls, then f.t. became doubtful and remained doubtful. Comparison between two experiences shows that Unpls of first was η 13. partly due to surprise at quality of tact. Sn, expecting something rough. Another ingredient λ 2. present in both experiences that was unpl. was the impulse to withdraw my hand. A third was a slight tickling. Hesitation that set in was due, I think, to slightness of Unpls.

*Expt 19: V 3 (class A 1).*

Pl. certainly, not strongly, connected with reposefulness, nothing to disturb or excite.

*Expt 20: T 3 (class A 1).*

Pl. on the whole no surprise, a little ticklishness which was predominantly pl. I think reflex of withdrawal was inhibited by habituation.

*Expt 21: A 3 (class A 1).*

Pl. no association, reminded of a former expt.

*Expt 22: O 3 (class A 1).*

Unpl., not very. First effect even doubtful. As odour developed it was unpl. Very δ 7. first effect was perhaps slightly pl., but probably owing to the fact of being a st. No associations.

*Expt 23: G 3 (class A 1).*

Very unpl., first slight sweet taste which was not unpl., as it developed it became λ 2. definitely more and more unpl. I think it was not so much the flavour as the desire to spit, η 8 & 6. i.e. the reflex. Extreme Unpls at end was a kind of fear or disgust, quite a secondary reaction.

*η 8. Expt 24: P 3 (class A 1).*

θ 5. Unpl., it was a pinch; only slightly so. Part of Unpls was fear that it would increase. First a Sn of contact and wrinkling of skin, unpl., then P. Sn rather sharp, came out, which was nnpl. Possibly it excited a reflex of which I was hardly aware.

26/10/15.

*Expt 25: T 6 (class A 1).*

Unpl. Some P. spots were especially stimulated, that is to say there were Sns of P. at  $\lambda 1$ . certain points which excited a strong impulse to withdraw hand. Surrounded by scraping  $\delta 11$ . Sns, but which were unpl. Very mixed Sn, but f.t. practically homogeneous. No pl. element in the expece.

*Expt 26: P 2 (class A 1).*

$\theta 2$ . There was a contact Sn, then gradually P. Sn, but it could not be definitely unpl., as far as it went. Apprehension arose, how much stronger it would be made, and this apprehension was unpl. Sn itself as indifferent as a Sn can be. Unpls in the expece afterwards  $\eta 4$ . that I could not form a definite judgment.

*Expt 27: G 2 (class A 1).*

First Sn of coolness; then there was a very indefinite taste—Sn predominantly sweet. Coolness agreeable, true gust. Sn seemed doubtful. Slowly the st. spread over tongue and gave rise to Sns which are difficult to describe. Slight astringency, on the whole  $\lambda 1$ . unpl. As the Sn spreads it grows decidedly more unpl. It excites reflexes in tongue which tend to depress palate, to diffuse st. These reflexes involve an attde of curiosity as to the  $\beta 2$ . nature of st. This attde was somewhat unpl.

*Expt 28: A 6 (class A 1).*

$\delta 15$ . Unpl. The Sn itself was certainly immediately unpl. The same associations occurred to me. There were vague ones which I could not resolve. Then that of a little dog when  $\lambda 1$ . you tread on his toes. It was all unpl. Distinct reflex of withdrawal when noise was first  $\eta 10$ . heard, turning away the head. Puckering up the forehead, in fact expression of aversion.

*Expt 29: V 6 (class A 1).*

Uncertainty. First there was some Plre from the general effect, followed by Unpre as its particular quality became more prominent. This persisted, yet at one time I noticed  $\delta 8$ . that I seemed to discriminate two cols, as if the fusion was incomplete, and I should have liked the blue if it had not been for the yellow. I think the brief moments during which  $\delta 4$ -. a slight pl. tone arose came between the unpl. moments of longer d. I do not think they co-existed. My impression is that it was a sequence.

*Expt 30: A 2 (class A 1).*

Entirely pleasing. Yes, it's soothing,—tolerably pure, it was very pleasing. I liked it, there seemed nothing mingled with it that was unpl. There was an interval between the putting of tuning fork on box and the tone.

*Expt 31: T 1 (d.i.e. <) (class A II).*

First st. came as a slight tickle which passed off, the remainder was soothing. Change  $\delta 7$ . from slight degree of Unpls accompanying the tickling to a slight degree of Pls.—Second st. seemed to be a continuation of first and f.t. was also a continuation. I think the f.t.  $\delta 16$ . is referred to the place where Sn occurs.

*Expt 32: A 1 (d.i. >) (class A II).*

Yes that was very pl. also. Second one was a little more pl., it seemed to be echo of  $\kappa 2$ . first, it excited pl. ideas. It attracts the ear, reflex of attn which is the opposite of aversion. F.t. is too uniform in both cases to say more about it.

*Expt 33: V 1 (i.d. <) (class A II).*

Both pl. I found it difficult to say which was more pl. The lower illumination was more soothing, but the higher illumination had more col., it was more satisfying to the col. sense.

Expt 34: **G** 1 (i.d. <) (class A II).

γ 1. First taste was too tantalizing, too puzzling to be agreeable. Great difficulty to taste at all (observer suffers from a cold). The whole expe was therefore disagreeable. Second: On putting in mouth I got a distinct chocolate flavour which was pl. In the first I do not think I ever got a chocolate taste at all.

Expt 35: **P** 1 (i.d. <) (class A II).

θ 1. I think the first Sn in which P. was very slightly developed was on the whole pl. The second one in which the P. was slightly more intense and also sharper in quality was on the whole unpl. The P. was, of course, connected with tact. Sn and I should say that θ 2. tact. in the first case was more unpl. than P. Sn. In second case the tact. ceased nearly to be felt (was masked by P. Sn).

27/10/15.

Expt 36: **P** 1 (i.d. <) (class A II).

θ 1. First agreeable: there was a sharp but mild P. Sn. The second one was a little stronger and of uncertain quality, then it was not uniform throughout its d. After the beginning of P. Sn there was a brief interval of contact Sn without P. Then P. Sn rather more intense than before and decidedly unpl.

Expt 37: **A** 4 (i.d. >) (class A II).

Much puzzled what to say. Repeat st. There was an agreeable f.t. at the time but I cannot say whether it was due to the Sns themselves or to the accompanying situation (i.e. the straining to hear and the satisfaction of hearing). Sns were not such as I should like to hear much of. The first was more pl. than second, it was a purer tone. No associations.

Expt 38: **V** 4 (i.d. <) (class A II).

First indifferent, second pl., stimulating. In first case hardly any col. Sn. Thought crossed my mind during second exposure that it was a col. I did not like, but as now presented there was something pl. Possibly due to contrast in illumination in the two η 7. exposures. It was the Pls of an excitement rather than quality of the object.

Expt 39: **O** 4 (i.d. <) (class A II).

Both unpl. In comparing the Unpleasantnesses I found it difficult to say that the second and intenser stimulation was in quality much more unpl. than the first, but it excited a λ 1. stronger reflex, a compulsive reflex. This is liable to be interpreted as a greater Unpls. δ 15. The reaction to the second st. was made up of unpl. f. and bodily aversion, bodily with- η 6. drawal and moments of disgust, whereas in the first st. there was much less of the bodily effects. The total of second f.t. is greater, but how much of this is due to Sn I cannot say.

Expt 40: **T** 4 (i.d.e. <) (class A II).

Both were slightly pl. The first was less regular and uniform and included some tickling. The second was more uniform and somewhat soothing, like being stroked. I cannot say that the tickling in first case was unpl., but it differed from that part of the contact expe which was similar to the second. The fluctuation in the first trial excited β 4. slight Unpls and in the change from simple contact to tickling was slightly unpl., although contact and tickling were slightly pl. Second one the more pl.

Expt 41: **V** 5 (i.d. <) (class A II).

First Sn on the whole agreeable, although I could see it was a col. I had expressed a dislike to. The second was uncertain. In attempting to judge whilst it was exposed δ 7. there was a fluctuation, the decision being now that it was pl. and then that it was unpl. α 2. Brightness slightly dazzling and so far unpl. No clear judgment emerged in the second case, whilst the first was on the whole pl.

## Expt 42: A 5 (i.d. &lt;) (class A II).

Both unpl. The second more so. The second excited associations and seemed to be threatening in character.

## Expt 43: O 5 (i.d. &lt;) (class A II).

Both unpl. Both slightly disgusting, second the worse. As the second increased in i., a 2. the quality also seemed to change. Some new character of olf. Sns emerged which had  $\eta$  6. some additional Unpls of its own. The disgust was accompanied by visceral reactions which it is difficult to locate, somewhere below the level of the palate. This also is quite a different expe from the olf. Sn. There was much less of this accompanying the first expe than the second.

## Expt 44: T 5 (i.d. &lt;) (class A II).

First slightly unpl. Second at first pl. but became unpl. very quickly, not very unpl.,  $\delta$  7. but a decided change took place. Associations were excited, scraping of the body, etc.  $\delta$  15. This brought with it slight Unpls. The f.t. of associations and that of the Sns can be  $\delta$  4. distinguished and may have co-existed, but it is very difficult to say.

2/11/15.

## Expt 45: O 1 (i.d. &lt;) (class A II).

Both slightly agreeable. First very faint and at the beginning uncertain as to f., but it was definitely agreeable at the end. The second was pl. on the whole, but I noticed through its course two changes. (1) There was the olf. st., slightly pl., there was a recognition of it as reinstating the former expe. This was pl., first as recognition and secondly as verifying the first trial, because there was then a faint doubt whether I smelt anything.

(2) I tried by strong inhalation to increase i. of olf. Sn, and this was only partially successful  $\eta$  4. and slight displeasure at disappointment set in. What happened to the f.t. of the olf.  $\delta$  4. Sn itself during these changes is very difficult to say. On the whole I believe it continued agreeable, but some character of it developed towards the end that was at least less agreeable if not unpl., a kind of irritation such as one may get from strong spices, or mustard,  $\eta$  9. probably not true olf. Sns.

## Expt 46: G 4 (1 and 2 drops) (class A II).

The first st. had a (1) somewhat acid flavour which was unpl. as the st. spread along tongue; (2) f. of roughness and astringency, yet not anything recognizable; (3) as it still spread further back quinine flavour became definite. The first and second stages were unpl. and the third was on the whole pl. (Allowance must be made for my acquired taste.) The second expt had almost nothing of the first two stages, and it occurred to me that the tongue was moistened and the st. easily spread. The taste of quinine became stronger, at first agreeable which prevailed for a long time. Now it is becoming disagreeable. I  $\delta$  16. cannot say that I was at any time c. of two f.t.s existing together or alternating. I localized  $\delta$  17. the f.t. of the Sn as such, but the f.t. attached to the whole of C. is of course diffused.

## Expt 47: O 2 (i.d. &lt;) (class A II).

The first pl. I couldn't recognize it exactly but thought it was heliotrope. I did not think it pl. on account of the recognition. The second st. was unpl. I thought it was not  $\eta$  4. heliotrope. It was unpl. The secondary Unpre arose from disappointment that second was like first and that recognition seemed to be mistaken. Distinct impulse after first st.  $\lambda$  1. to prolong expe by inhaling and equally after the second expe to put an end to it by exhaling. It was not disgusting but unpl.

## Expt 48: V 4 (i.d. &lt;) (class A II).

$\alpha$  2. On first presentation I saw a col. as a good yellow and it was pl., then the impurity of the col. appeared and was unpl. In second presentation it was on the whole pl. The

higher luminosity seemed to counteract what was unpl. in the ground col., in fact I could not call it the same col. I was slightly surprised at change of f.t.

*Expt 49: T 4 (i.d.e. > ) (class A II).*

λ 1. First agreeable, soothing; distinct but faint wish that I should like you to go on. Second st. tickled at first which was unpl., then became of doubtful quality and stopped  
 η 13. β 3. suddenly which caused surprise. Unpls from the thought that I had not had time to judge.  
 δ 3? Total effect very much less pl. than first one, in fact somewhat unpl. Then you get a sort of summation of f.t. of the unpl. effects (viz. the tickling, uncertainty as to f.t. and surprises), but whether this summation of the tones is a sort of arithmetical process I am unable to say.

*Expt 50: O 4 (i.d.e. < ) (class A II).*

δ 9. Both very unpl. and offensive, the second more, just in proportion to the i. Produces  
 λ 1. strong physical reactions; they are so unpl. that there is nothing else to say.

*Expt 51: V 3 (i.d. < ) (class A II).*

β 2. The first pl., attde of confidence and satisfaction, no high degree of Ptre. Second less pl., the greater luminosity seemed to destroy a good deal of quality, impoverished it.  
 η 4. Some disappointment which was slightly unpl. at the effect of greater luminosity.

*Expt 52: T 3 (i.e.d. < ) (class A II).*

The first slightly unpl. The Sn consisted partly of slight tickling and partly of very  
 λ 1. light suc. contact Sns producing altogether an impulse to withdraw the hand. An attde  
 β 2. of dissatisfaction towards it as something inadequate. The second slightly agreeable,  
 β 2. less tickling, a more satisfying series of contact Sns, the attde changing to one of comparative satisfaction at its adequacy. There is observable a kind of appetite in the skin for  
 λ 1. gentle stimulation, so that more of it can be more gratifying (a wish to go on).

*Expt 53: A 3 (i.d. > ) (class A II).*

The first effect was a fusion of f. which resolved itself as the sound continued into a  
 pl. f. from the tonal Sn and an unpl. f. from the accompanying breath of which there was  
 δ 13. α 4. a good deal. As long as the Sn was not analysed the f.t. was not analysed and remained fused. As the Sns separated the f.t.s separated: there was tone and noise and Pls and Unpls.

The second expt was less agreeable without being unpl. being less of a st. and partly  
 β 4 & 2. from its comparing unfavourably with the first expt and that attde, was so far unpl.

δ 9. I should say that my feelings fluctuated as I was first aware of the sound and then of my  
 attde of dissatisfaction.

9/11/15.

*Expt 54: O 3 (i.d. < ) (class A II).*

Both pl. The first more pl. than second. The second as it continued became less pl. I had the impression that if it continued it would become unpl. A good deal of the quality  
 δ 7. of the olf. Sn was submerged as the second expt went on and a slight pungency began. The Ptre seemed to depend upon the special quality and this was much purer in the first expt.

*Expt 55: G 3 (1 and 2 drops) (class A II).*

Unpl. both. The second more unpl. merely by the greater i. and greater extensy. I cannot say that it was really greater i. The same effect as in case of heat. Mixed Sn of sweet and sour and a penetrating effect which could not be called either. In the second expt some of the liquid touched my lips and produced a burning Sn. All the distinguishable qualities of the Sn were unpl., but it was not disgusting. I could not detect any visceral reaction. The Unpls was the Unpls of the different Sn qualities. I find it difficult to say whether the Unpls accompanying each quality had itself a distinct quality or whether

the quality of the f.t. was constant and only the Sn qualities distinguished. As in a former expt the Sn qualities were gradually discriminated from the confused complex, and it was  
 § 11. as they were discriminated that the Unpls of each became recognizable. I should infer  
 § 17. from this that the different f.t.s were at first fused and then gradually analysed.

*Expt 56: P 3 (i.d. <) (class A II).*

§ 5. I could discriminate in both expts the contact from the P. Sn. The P., however, in the first expt, as it became prominent, completely masked the contact and became pure P. of a considerable degree of i. The second expt gave a stronger and more extensive contact Sn, but the P. was duller, more extensive and less intense, so that it never submerged or masked the contact Sns. The first expt at its height was very unpl., excited a strong  
 λ 1. reflex which was drawn off by knitting my brows. The second expt was much less unpl. and excited no perceptible reflex, but it was unpl., though much less so than first. I think  
 β 2. that in some of these expts I can detect an Unpls accompanying the general situation of  
 κ 1. being experimented upon which becomes most prominent in P. Sns. This general f.t. of  
 κ 1. the situation is masked by attn to the particular st. I cannot say whether it influences  
 the f.t. of the particular Sn. Only just become aware of this.

*Expt 57: O 6 (i.d. <) (class A II).*

§ 6. The first expt was at the beginning slightly exciting and pl., but soon became unpl. as the quality of Sn became clearer. In the second trial the quality was clear from the  
 ε 3. first and also more intense and the whole much more unpl. I could not recognize the odour  
 η 15. and there was slight wonder what it might be. This was also slightly unpl.

*Expt 58: T 6 (i.e.d. >) (class A II).*

The first was unpl., it contained two Sns, contact (rough) which was slightly unpl. and  
 θ 5. intermittent P. Sns which were more unpl. The second contact was much less unpl., just in proportion to its extent. It was also slightly unpl. from its brevity as I had the thought  
 α 2. that there was not enough of it to study it precisely, a sort of unsatisfied "f." Then the second expt contained a much smaller proportion of P. to the contact Sns.

*Expt 59: P 2 (i.d. <) (class A II).*

Both slightly unpl. The first hardly distinguishable from indifference, mixed contact and P. but in the first the P. developed so slightly that it was barely recognizable. The second became a little clearer and perhaps a little more unpl. The f.t. was so faint in both  
 δ 16. cases. The localization of the Unpls was complete, it coincided with the locality of the Sn.

*Expt 60: G 2 (1 and 2 drops) (class A II).*

The second trial was much the more pl. The first trial was a series of Sns, first coolness and moisture, which was slightly pl., then sweetness which was a little more pl., then a diffused Sn down the sides of the tongue which was penetrating and otherwise of uncertain quality and unpl. In the second trial there were four stages, first the cool liquid which was pl., then sweetness more decided than in the first case and also pl., then the development of a special quality which was not in the first, i.e. raspberry flavour, which was very agreeable. This gradually faded and there was a return in stronger form of the penetrating effect diffused along the sides of the tongue, which has a certain sweetness but not a pl. sweetness. This in the second trial became very unpl. The series of Sns which became  
 δ 3? prominent in the course of the expt is very distinctly noticeable and each Sn brings its  
 δ 17. own f.t., the Sn earlier in the series compared with the predominant Sn at any time passed to the margin of C. and with them their f.t.s. The rest of the complex seemed to be masked by the predominant Sn and its f.t. In the last stage the Sn of the preceding stage entirely disappears, it cannot even be recalled. I was unable to discriminate any co-existing

δ 4? f.s except by passing from one Sn to another, e.g. from the special flavour to the sweetness which had become marginal. I could not perceive that they co-existed in such a way as to compare them simly.

*Expt 61: A 6 (i.d. < ) (class A II).*

Both unpl. The second extremely so. The first started associations with the effect of a pencil drawn perpendicularly along a slate, but the present Sn had not the peculiar shuddering qualities of the slate pencil effect. The second trial was an intenser and more lasting repetition of the first and proportionately more disagreeable, in fact extremely so δ 16. producing strong reflexes. These f.t.s connected with these and. Sns is less localized than in contact and P. Sn, it is in a manner referred to the st., but it is also largely felt in the head.

*Expt 62: V 6 (i.d. < ) (class A II).*

Both expts agreeable. In the first the col. was more saturated and in some degree pl. Although the thought occurred that it must be a col. that I generally do not like, this β 3. could not destroy the impression of the moment that I did like it. The thought had a slightly unpl. f.t., but this Unpls of the thought seemed to have no effect on the f.t. of the δ 4. Sn, neither blending nor counteracting it. In the second expt the col. quality was almost α 2. lost in the increased brightness and was less pl., whereas the brightness was pl. in itself and as to the total effect I judged at the moment that on the whole there was some loss of satisfaction in the second expt. I am not able to say that I had a co-existence of the two f.t.s at any time, I am generally going from one to the other.

16/11/15.

*Expt 63: T 1 and 2 (sim.) (class A III).*

Both slightly pl., No. 2 slightly more than 1. No. 1 gave a mixed Sn When the st. was first applied there were several slight Sns of distinct and acute contact, scattered Sns, and then a smooth moving contact Sn which differed from 2 in being a little more intensive δ 14. and a good deal less extensive. The feelings were distinguished from the Sns not at the time of expe but in memory, except the f.t. of the acute contact Sns in No. 1, which were felt at the time as very slightly unpl. These Sns preceded the continuous moving contact Sns ε 2. and did not co-exist with them. I cannot perceive any difference of quality in the f.t. δ 16. except differences of i. and Pls and Unpls. As the Sns were localized so were the feelings, they seemed to cohere with the Sns but are quite distinguishable. Describing my memory of the two f.t.s of the two sim. Sns they were distinct, and could be compared as greater and δ 3. less and were localized as each cohering with its own Sns and therefore, I should say, co-existing in C.

*Expt 64: O 1 and 2 (sue.) (class A III).*

Both pl. No. 2 more pl., because richer in quality, heliotrope, and No. 1 musk. The heliotrope seemed to contain the musk and something more. The quality was pretty pure, δ 14. very nearly equal to that of flowers. F.t.s were distinct from Sns, but so connected with ε 1. or dependent on them that any one unaccustomed to analysis might easily take it for one ε 2. process. The f.t. of the two expe did not differ in quality, but only in degree as greater δ 16. or less. They seemed to be distinctly localized in the olf. chamber, that is to say the body of the f. was localized there.

*Expt 65: A 1 and 2 (sue.) (class A III).*

Both very pl. No. 2 seemed more pl. partly by its greater i., partly through associations excited by the interval in relation to No. 1. It seemed to suggest the whole tonic seale, though I doubt if the quality of it would be more agreeable than the first if it were taken absolutely, by itself. The Sns themselves were very imperfectly localized. They seemed

ε 1. to be as much in my head as in space. The f.t.s cohered with the Sns and seemed to be a  
 δ 16. consequence of them, were distinguishable from them and like them imperfectly localized.

ε 2. I can observe no difference in quality of the f.t., but the second was more complex containing a good deal more than the reaction to the Sns taken by itself. The f.t.s of the sensational and relational elements described above were not, I think, distinguishable in the expee itself, but only in memory in which the expee was analysed.

*Expt 66: V 1 and 2 (suc.) (class A III).*

Both very pl. for cols, which are much less to me than sound. No. 1 was more pl.; profoundly peaceful. The second st. at first was so stimulating that for a moment I preferred it, but having time to form a definite judgment I found it inferior though very good, ε 1. something nobly rousing about it. The f.t.s are distinct from the Sns, the quality seems to ε 2. be the same, there is merely difference of i. They seemed to be for the most part localized, δ 16. but not entirely, not so completely as those of the odour Sns. The f.t. is not localized in the eye as the f.t. of the odour is localized in the olf. chamber, it is partly localized in space with the col. and it is partly diffused. I cannot say where it is.

*Expt 67: T 2 and 6 (sim.) (class A III).*

No. 2, agreeable (slightly); No. 6 mixed f.s attending two different Sn qualities, β 1. a sort of scratching, i.e. a slight P. and slightly rough contact Sns. The scratching Sns were on the whole pl. The contact Sns were merely indifferent. The Plre of the scratching δ 4. Sns seemed to be due to a comparison with the Sns of No. 2. It was as if No. 2 st. had left a negative after-image of unpl. quahy and the scratching Sns obliterated it. This immediate comparison, made without deliberation, merely automatic, seemed to be the ε 2. chief ground of Plre of No. 6. I do not think the pl. quality of the f.t. of P. Sn was any δ 16. different from the pl. f.t. of the other Sns, but it was more intense. The f.s were distinctly localized and cohered with the Sns.

*Expt 68: O 2 and 6 (suc.) (class A III).*

β 1. No. 2 pl., recognition of heliotrope with which came a confirming judgment of its agreeableness. No. 6 slightly unpl. at first. I was uncertain of its f.t., but as it developed λ 1. it became definitely unpl. and excited breathing reactions to rid my nostrils of it. The δ 7. f.t. in both cases distinguishable from the Sn, I think f.t. of No. 6 more so than that of ε 1. No. 2, which may be due to the change that took place. In both cases the f.t. seemed to δ 16. belong to the Sn and to be localizable with it, viz. in the olf. chamber. I noticed no differ- ε 2 & 3. ence of quality except - and +, and degree of i.

16/11/15.

*Expt 69: O 1 and 6 (suc.) (class A III).*

δ 7. No. 1 pl. I could not identify it. It was not very pl. and the pl. quality seemed to pass λ 1. off quickly. No. 6 was very unpl., exciting strong reaction to blow odour out of my nostrils.

It is difficult to express the quality why it was so unpl. It seemed as if a little more would δ 16. choke one. The f.s were localized chiefly in the nostrils.

*Expt 70: A 2 and 6 (sim.) (class A III).*

No. 2 was very pl., No. 6 I did not at first understand to be one of the stimuli, then it seemed to force its way through the tone disagreeably interrupting the Pls of the tone. δ 4 - . The Pls and Unpls did not, I think, co-exist. The pl. tone Sn was interrupted by the unpl. squeak and superseded it, then returned. The pl. and unpl. things seemed to exist in space pretty definitely localized. No. 6 was more objective and localized than the tone and less δ 16. extensive. The f.s were bound up with the Sns and localized with them. The Sn seems to be in space of its own right and the f.t. only because it belongs to the Sn.

*Expt 71: V 2 and 6 (suc.) (class A III).*

No. 2 was very pl., seemed elevating as if the mind was strengthened. No. 6 depended a good deal upon its contrast with No. 2. On the whole it was pl. The f. accompanying the first was in less proportion than it happens in the case of many Sns. This "inspiriting  $\lambda 1$  effect" is felt in one's self.

*Expt 72: T 3 and 5 (sim.) (class A III).*

No. 5 was very slightly unpl., closely approaching indifference. No. 3 was pl. I am  $\kappa 1$ . bad at distributing my attn and the attempt to attend to the Sns simly seemed to inhibit the f.s of them. I think when they were successively attended to the f.s became clearest.  $\delta 16$ . The f.s were very definitely localized.

*Expt 73: O 5 and 3 (suc.) (class A III).*

$\lambda 1$ . No. 5 very unpl., exciting strong reactions, No. 3 was slightly pl. but was prevented from developing its true character by the remains of No. 5 in the olf. chamber, it gained  $\delta 16$ ,  $\beta 4$ . part of its Pls by way of relief. F.s were localized, No. 5 more than No. 3. After the st. had been removed I had an idea of the act of smelling, and this idea had none of the olf.  $\delta 2$  &  $15$ . quality of the original expee, but it retained the f.t. that had aecompanied the Sn.

*Expt 74: A 3 and 5 (sim.) (class A III).*

$\delta 4$ . No. 3 pl., No. 5 unpl. I am inclined to think the f.s co-existed. The effect was not that of two sources of stimuli, but as if something had gone wrong with the tone and produced the queer noise along with it. This made the unity of attn more complete and with that there went a co-existence of different f.t.s. I think so, but it is very difficult to say. It  $\delta 16$ . was localized and, as usual, with tone Sn a good deal is in the head and the f. is so far in the head and so far as the tone is in space the f. is in space.

*Expt 75: G 1 and 2 (sim.) (class A III).*

Both pl. On the introduction of No. 2 in so far as it was sweet it fused with No. 1, but  $\alpha 4$ . its special raspberry quality was suppressed by the chocolate flavour. The effect of the fusion was to enhance the Plre of No. 1. I do not think the enhancement of f.t. could be  $\delta 11$ . distinguished from that of the choccolate. It was the Sn complex of liquidity that made the st. clearly distinguishable from that of the choccolate and from the liquidity there seemed to proceed a strengthening of the already existing Pls.

*Expt 76: T 1 and 6 (sim.) (class A III)*

No. 1 and No. 6 also slightly pl., whilst only pressure was exerted, but when movement set in, No. 1 remained slightly pl., whereas No. 6 became very unpl., the scratching effect seemed to excite a good many P. spots which stood out here and there quite prominently,  $\delta 5$ . the whole becoming quite unpl. Indeed as this Unpls of No. 6 developed hardly any attn  $\delta 16$ . remained for No. 1. The f.t.s were strongly localized in both cases, especially with No. 6.  $\delta 3$ . During the first period of slight pressure there seemed to be a co-existence of slight pl. f.t.s.

23/11/15.

*Expt 77: A 1 and 6 (suc.) (class A III).*

No. 1 pl., No. 6 unpl. No. 1 soothing, No. 6 startling and harsh. One distinctly followed the other. There is no difficulty in comparing the two f.s as to quality. I think the  $\beta 4$ ,  $\delta 16$ . Unpls of No. 6 is increased by contrast, breaking in on the first. Both localized. No. 6 was more localized and less different than No. 1.

*Expt 78: V 1 and 6 (suc.) (class A III).*

No. 1 agreeable, somewhat sombre but sympathetic. No. 6 mixed. The hue not pl.,  $\alpha 2$ ,  $\beta 4$ . it hardly rises to positive Unpls. The brightness pl., especially by contrast with the fore-going st. This conflict of f.t. in No. 6 expressed itself first as hesitation and then on analysis

of the two aspects of the st., hue and brightness, the f.t. of each became distinguishable. They were only distinguishable seriatim and here as on a former occasion I can only infer  
 64. they co-existed in some way prior to the analysis. The f. was partly coherent with the Sn in each case and partly diffused. The diffused factor was in the first instance agreeably depressive and in the second instance agreeably exciting.

*Expt 79: T 2 and 6 (sim.) (class A III).*

Both pl., in fact I could not distinguish any qualitative difference in the Sns. At first there was a slight tickling which had a mixed f.t., a slight Unpls connected with an impulse to withdraw my hands and on the other hand a slight Pls from mere stimulation. The more purely tact. Sn was pl. and excited in a remarkable degree deeper breathings. The tickling was more localized than the f.t. of the more purely tact. Sn. The f.t. of the purely  
 a 3. tact. Sn was diffused because of its effect on the breathing. But one ought to attribute  
 δ 3. the f.t. to the breathing rather than to the tact. Sn. I should say that the f.t.s of the breath-  
 δ 11. ing and the tact. Sn co-existed and were fused prior to the analysis of the C. into the two factors.

*Expt 80: O 1 and 3 (suc.) (class A III).*

Both pl., No. 1 more pl. than No. 3. I had not time to recognize the stimuli. No. 3 seemed to develop within No. 1 and being inferior caused a slight dissatisfaction at first,  
 δ 7. but the judgment followed that considered by itself it was rather pl. than unpl. Sns  
 δ 16. localized in the olf. chamber and the f.t.s cohering with the Sns. Very little diffused f.

*Expt 81: G 1 and 4 (suc.) (class A III).*

Chocolate pl., No. 4 a mixed Sn, wetness, coolness and at first a sort of sharpness, slightly stinging which developed into the true bitter quality. This was, as pure quality,  
 ε 2. a 2. unpl., but in a secondary way as stimulating it was pl. The total effect of No. 4 was agreeable, though this judgment was reached after much hesitation during which the alternative  
 μ. judgments presented themselves. The final judgment was not that the pl. outweighed the  
 δ 16. ±. unpl. elements, but that the total effect was such I should be willing to have it repeated.  
 All the f.s were localized except that the f.t. of the stimulating quality of the bitter was diffused.

30/11/15.

*Expt 82: P 1 and 2 (sim.) (class A III).*

65. No. 1 at first unpl., gradually becoming less so. No. 2 only pressure Sns for 5-6 secs, a dull P. Sn then gradually developed in strong contrast with the piquancy of No. 1. As the Unpls of No. 2 became greater the Unpls of No. 1 grew less. Possibly this may have been  
 κ 1. due to attn being diverted to No. 2 rather than an actual change in the f.t. of No. 1. No. 2 Sn seemed to spread beyond the point directly excited and the Unpls grew still more and diffuse. It appreciably affected my breathing, making it, I thought, deeper, contrary to  
 δ 16. the usual report. The f.t. of No. 1 was much more localized than that of No. 2. I find it impossible to say whether the two unpl. f.s differed in quality. The total expes of Nos. 1 and 2 were very different, but the difference of quality may be wholly referred to the  
 ε 2. difference in the Sns. The Sn and f.t. of No. 2 persisted for a good while after the st. had ceased, very much longer than in the case of No. 1. I could be aware of the Sns simly but I am not able to say that I could discriminate the f.t.s simly, that seemed to depend upon a transfer of attn from one Sn to the other.

*Expt 83: T 5 and 6 (sim.) (class A III).*

No. 6 was at first felt to be rough and slightly stimulated some P. nerves, it was slightly unpl. at first. No. 5 was perceived slightly rough at first and f.t. of the Sn nearly indifferent. As the expt proceeded the perception of roughness disappeared in both cases. In No. 6 the scattered and isolated P. Sns ceased whilst in both 5 and 6 a slightly dull P. Sn

developed underneath the pressure Sns. Very little differences of quality then remained.

δ 3. No. 6 was somewhat more intense and somewhat more unpl. I think I was aware of the  
 δ 16. f.t. of both simly and could say that No. 5 was less unpl than 6. The f.t.s were chiefly localized.

*Expt 84: A 1 and 5 (sim.) (class A III).*

No. 1 very agreeable and, as usual, the f.t. of an aud. Sn is with me more cerebral than most Sns of most other modalities (except smell). No. 5 was generally unpl. I could dis-

δ 17. tinguish first the Unpls of the noise itself, secondly the Unpls of its interruption of Sn No. 1, thirdly the variation of this Unpls of No. 5 according as some factors of Sn No. 5  
 α 2. harmonized or were discordant with Sn No. 1. The second expe was the most unpl. of  
 δ 16. κ 4. these three, viz. the interruptions. The f.t. and Sns were localized in No. 5 better than in No. 1. I do not think that I could say that I was simly aware of different f.t.s, only as attn turned from one to the other.

*Expt 85: T 1 and 4 (sim.) (class A III).*

Both slightly pl. At first slight tickling in both cases which soon passed off. The expe  
 δ 16. was soothing on the whole. The f.t.s were for the most part localized with the Sns. I be-  
 δ 3. lieve that I was able to compare the f.t.s of the two Sns simly.

*Expt 86: G 3 and 4 (sim.) (class A III).*

At first decidedly unpl. in both cases. The sour more penetrating and more unpl. at  
 α 4. first. Soon the two Sns fused and the bitter began to predominate. The f.t. then became  
 δ 16. δ 3 - . less unpl. I do not think I could compare them simly. They were strongly localized. At  
 first there were reflex tendencies excited to lick the lips and swallow. Curious f. of Plre  
 β 3. accompanied the expe from the reflection that I was enduring these unpl. expees so dis-  
 passionately and disinterestedly as if they were not my expees. This f. was very distinct  
 δ 16. from the other f.s and entirely diffuse, perhaps slightly localized in the forehead.

*Expt 87: T 2 and 5 (sim.) (class A III).*

The stimuli after a short time differed very little in tact. character. No. 5 was warmer than No. 2. At its first application No. 5 was felt to be rough but with the slightly < pressure this perception disappeared. The f.t. was so near to indifference in both cases that it was difficult to distinguish and therefore to compare it. After much effort I could not be sure that the two f.t.s could be compared at all either simly or successively. So far  
 δ 16. as they existed I should say they were localized.

1/12/15.

*Expt 88: T 3 and 6 (sim.) (class A III).*

F.t.s of both Sns very faint. No. 6 slightly unpl. No. 3 slightly pl. I tried to distribute  
 κ 1. attn to be aware of both together. I could not satisfy myself that I succeeded. Attn  
 would shift from one to the other. One could be *aware* of the Sns together, but I would  
 δ 16. hardly call it attn. Such f.t.s as there were were localized.

*Expt 89: G 2 and 3 (sim.) (class A III).*

F.t. of both unpl. No. 3 developed quickly, No. 2 developed very slowly. I am still not sure what it was, sweetish I should say, but at first only perceived as penetrating.

If there was a sweet st. its effect was submerged by No. 3 for several seconds. Then some  
 α 4. flavour emerged which seemed to be sweet. The f.t. of No. 2 was nearly as unpl. as that of  
 No. 3. In consequence of the fusion of flavours and predominance of No. 3 the f.t.s were  
 difficult to discriminate. But during the first second or two whilst the flavours were dis-  
 δ 3. δ 16. tint I think the f.t.s could be appreciated simly. They were strongly localized.

## Expt 90: P 1 and 3 (sim.) (class A III).

δ 3. Both unpl. No. 3 the more unpl. I think I could compare the f.t.s simly, but I am not  
 δ 16. sure of it. The f.t. of No. 3 was more diffuse, i.e. less entirely localized than No. 1. It  
 β 4. κ 1. was nevertheless more definitely unpl., so that it was a relief to turn attn to No. 1. When  
 this was fully accomplished No. 3 temporarily disappeared from C.

## Expt 91: T 4 and 5 (sim.) (moved on same hand) (class A III).

The Sns differed very slightly, No. 5 seeming a little rougher, i.e. it seemed to stimulate points wider apart than No. 4. It seemed to stimulate these with greater i. Both Sns were accompanied by tickling. The f.t.s were very similar and in both cases mixed. Now the tickling effect was on the whole pl., then the scraping effect unpl. I could not decide δ 4. whether these different f.t.s produced by the same st. in either case were, or were not, simly apprehended, but they were easier to compare than the f.t.s of the Sns in opposite hands, i.e. 4 and 5 taken as wholes. These f.t.s excited in the opposite hands I could not compare in their localization but only in idea.

## Expt 92: T 2 and 4 (sim.) (moved on same hand) (class A III).

Very little difference. No. 4 a little rougher, now and then giving a faint scratch Sn, both on the whole slightly pl. and very similar except for the variety introduced by No. 4, in the slight scratching. This had its own f.t. very nearly indifferent in quality as pure η 7. ε 3. f., but slightly exciting. This excitement seemed to break into the f.t. and slightly raise δ 16. its i. F.t.s were localized for the most part with the Sns, more completely in the case of No. 4 than of No. 2. The excitement and f.t. were easier to compare than the f.t. of the different stimuli, they were more nearly sim.

## Expt 93: G 1 and 3 (sim.) (class A III).

No. 1 pl., No. 3 unpl. As they diffused themselves No. 1 overcame No. 3. The distinctive vinegar flavour was very faintly apprehended. The f.t. of No. 3 was less unpl. than δ 4. in former expts. I cannot say whether there was a sim. comparison or not. I think there κ 1. must have been just before the fusion began, but my attn shifts so rapidly that I cannot δ 16. speak of it with any confidence. The f.t.s were both localized chiefly.

## Expt 94: P 2 and 3 (sim.) (class A III).

Both unpl., No. 3 more so. As the P. Sn of the pinch developed it was hardly distinguishable from a prick, but more intense than the prick in former expts. I tried hard to δ 16. compare them simly but with very doubtful success. They were both chiefly localized, No. 3 more completely than No. 2. The greater unpls of No. 3 was not the accompaniment θ 1 & 4. of an intenser P., for No. 2 was more painful. The greater Unpls attached to the quality of the P.

7/12/15.

## Expt 95: (Mood, produced by raspberry syrup, as by Störring) (class F).

I am not sure that there is any specific Plre attaching to the mood as such. The Plre ξ 1 & 2. of a slight cheerful mood, that is what I have, is rather connected with respiration or warmth or ease of position or ideas which occur from time to time, they are all very slightly pl. Having these various sources the resulting f. is very diffuse. I cannot distinguish any ξ 3. ε 2. difference of quality between the f.t.s of these Sns and ideas, i.e. the mood, on the one hand and the f.t. of the gust. Sns on the other. The present after Sn of the raspberry infusion is a rather unpl. sweetish Sn at the back of the palate. It stimulates acts of δ 16. swallowing to get rid of it, and the f.t. like the Sn is strongly localized. The original Sn of the raspberry had a much more intense f.t. than the mood.

## Expt 96: (Mood and stimuli) (class F).

At first pl. f.t.—Sns from raspberry solutions, not so pl. as on the former occasion. A  $\xi 2$ . return of the sub-cheerful mood, weaker than first time. (Tuning fork): Strengthened by  $\xi 3$ . the and. Sn which was very agreeable. The f.t. of the aud. Sn was compatible with the mood, so it was possible to attend to the Sn and its f.t. as part of the mood. (Prick st.,  $\delta 5$ , **P 1**): The P. Sn on the other hand had an unpl. f.t. and entirely withdrew attn from the mood. It monopolized attn. After its cessation the mood returned in a still weaker form.  $\theta 2$ . Then came the olf. st., much more mnpl. than the P. had been and this put an end to the mood altogether. The quality of the aud. Sn so far as pl. could not be distinguished from  $\epsilon 2$ . the quality of the f.t. of the mood. The unpl. qualities of the P. and olf. Sns appeared to be different in some sort, but this can probably be explained by the disgusting character of the olf. Sn, viz. visceral reactions, and partly by the greater diffusion of the f.t. of the olf. Sns.

8/12/15.

Expt 97: Pl. mood (mood + st. **A 1**) (class F).

The mood before st. entered into it had become slightly agitated and uncertain. The  $\xi 5$ . tone relieved the agitation and re-established the mood. The f.t. of the aud. Sn was far  $\xi 3$ . more definite than the f.t. of the mood, steadier and stronger. It was agreeable and harmonized well with the character of the mood before the agitation set in. It was opposed  $\delta 12$ . to the f.t. of some elements of the agitation, which were probably due to ideas, and repressed and cancelled them.

Expt 98: Mood + st. **P 1** (class F).

The P. Sn was slightly unpl. at first but on comparing the Sn with the mood the f.t.  $\xi 5$ . of the Sn became less unpl. I could not be sure that it was not pl. The Plre, however, was due, I think, not so much to the Sn itself as to the attde of enduring it, for this f. of this  $\beta 2$ . attde agreed with the mood which was one of tranquillity. Perhaps an idea was present that "little things do not matter" and this connected the attde towards the Sn with the mood.

Expt 99: **A 1** and **V 2** (class A IV).

Both pl. The aud. st. slightly more pl. Very different effects in relation to the other modes of expec that Wundt calls f.s. The tone was calm, tranquillizing; the col. was some  $\alpha 3$ . what exciting and elevating. These expecs can be compared simly, they seemed to be localized in different parts of my body. The tone secondary complexes in the lower part of the chest; the secondary Sn complexes of the col. in the head and nostrils, as if there was a tendency to throw the head up. This greatly facilitated (perhaps was the condition  $\epsilon 1$ . of) the comparing them simly. As to the pure f.t., pl. or unpl., it was connected more directly with the main Sns, the tone or col., and I could not get it definitely enough in the two cases to make a sim. comparison.

Expt 100: **T 6** and **O 6** (class A IV).

The olf. Sn slightly agreeable, close and uncertain. The tact. Sn slightly mnpl. but very  $\delta 4$ . slightly. I thought that at one moment I was able to compare simly the f.t. of the two stimuli, but if so it was for a very brief time, so that I could not be certain that a shifting of attn had not taken place. The olf. Sn was more persistent and steady than the tact. Sn and it was in one moment of the fluctuation of the tact. Sn that its f.t. seemed immediately comparable to that of the odour. I did not manage to attend to both Sns steadily.

14/12/15.

Expt 101: **G 2** and **P 2** (class A IV).

Both were faintly unpl. The gust. Sn rather indeterminate, sweetish but without other quality. The P. Sn was more definite and intense and its f.t. faintly disagreeable

but only faintly. I cannot say which f.t. was the more unpl. whilst the P. st. was active,  $\theta 2.$  but the gust. Sn still remains active (2-3 min. after P. Sn ceased) and is now much more  $\epsilon 2.$  unpl. than the P. was at its maximum. As to the quality of the f.t.s of the Sns I cannot compare them definitely enough to perceive any qualitative difference in them. The difficulty is to distinguish the f.t.s from the quality of the Sns on the one hand and the quality of the motor reactions excited on the other hand. Allowing for these differences there seemed to be nothing left except differences of d. and i.

*Expt 102: T 5 and A 6 (class A IV).*

Very difficult to compare these stimuli. They seemed to be as wide apart in C. and the aud. st. varied a good deal. At first its f.t. was unpl., but as it continued the tone factors of it became sufficiently dissociated from the noise to produce a distinct f.t. which was  $\beta 3.$  pl. At the same time it began to remind me of songs of some birds (sparrows) and this was a further agreeable element. The tact. scrape Sn was also mixed: roughish contact  $\theta 1?$  with slight and irregular P. factors; it was slightly agreeable. The elements of P. seemed to give a sort of freshness to the total Sns. At first these P. Sns appeared pl., but further  $\eta 7.$  analysis raised a doubt whether this Pls was not attached rather to the excitement.

*Expt 103: O 4 and V 3 (class A IV).*

These stimuli also seemed to be too wide apart for definite comparison. The vis. is slightly agreeable, tranquilizing. The olf. st. is very disagreeable, as soon as it was apprehended the C. of the vis. st. seemed to be abolished, so that there was an interval in the apprehension of it during the apprehension of the odour. Accordingly they could not be compared. I find it difficult to decide how far the Unpls of the olf. st. is an immediate C.  $\alpha 3.$  or how far it is inferred from the strong visceral motor reactions excited by it.

*Expt 104: T 4 and G 4 (class A IV).*

The tact. Sn was slightly agreeable, soothing. The st. was perceived as slightly rough, but unmixed with P. It remained much the same throughout the expt. The quinine was at first perceived as a cool liquid. As it spread the bitter quality developed and was at  $\delta 7.$  first slightly agreeable, but as it spread more widely it was equivalent to an increased i. and became slightly unpl. I could not compare the two f.t.s simly. It was necessary to turn definitely from one st. to the other in order to obtain a clear C. of their distinctive  $\kappa 2.$  f.t.s. As the Unpls of the quinine increased it tended to distract attn from the other st. and draw it to itself.

15/12/15.

*Expt 105: A 4 and P 2 (class A IV).*

$\delta 7.$  The aud. Sn is at first slightly pl., as it continues it becomes piercing and very unpl.,  $\lambda 1.$  exciting movements as if to turn the head or put one's fingers in one's ears. The pressure st. as long as it is merely pressure is nearly indifferent. When P. is aroused it is slightly unpl.  $\epsilon 2.$  under the pressure then exerted. So far as I can compare the f.t.s and distinguish them  $\delta 16.$  from the Sns, they seemed not to differ in quality. Both are localized; the f.t. of the P. in the hand at the point of pressure, the f.t. of the sound definitely in the ear with merely a reference to an objective st. Probably with longer d. the f.t. of the sound would become  $\delta 4-.$  intensely disagreeable. I could not compare them simly. I am inclined to say that the  $\alpha 4.$  sound Sn had some further modality attached to it which was more like P. than anything else, possibly it was to this second Sn that the Unpls belonged. The quality of the P. from  $\theta 5.$  the pressure st. is quite distinct from the quality of the contact Sn.

*Expt 106: G 2 and O 2 (class A IV).*

$\delta 16.$  Both pl. The olf. much more so. Extremely soothing. Both f.t.s partly localized, the  $\delta 3.$  olf. much more diffusive. I could compare them nearly simly but could not be sure that

the comparison was exactly sim. The quality of f. not distinguishable, in fact after allowing for all the qualities of the Sns there is nothing left that can be directly attended to, so  $\epsilon 2$ . that the apprehension of the different qualities of f.t.s seems impossible.

*Expt 107: V 1 and P 2 (class A iv).*

$\beta 2$ . The col. pl., a sort of confidence which it gives. The P. Sn unpl., by degrees it seems to  $\delta 5$  - penetrate the hand so that it was experienced on the palm. Until it became very unpl. and drew the attn very strongly I was able to compare the two f.t.s better than usual, they were strongly contrasted, but not simly. The difference in i. was very great. The f.t. of  $\delta 16$ .  $\lambda$  I. the P. Sn is much more localized than the f.t. of the vis. Sn. It excited much more tendency to motor action. The vis. st. seemed merely to hold the eye.

*Expt 108: T 1 and V 3 (class A iv).*

Both mildly pl. and very similar, a soothing quality. The taet. st. was at first mixed  $\delta 11$ . with tickling Sn which passed off under repetition. I should say that the f.t.s fused and produced centrally one effect. This obscured their local character. I do not think I could compare them separately, the more I got to attending to both Sns simly, the more complete was the fusion of the f.t.s.

21/12/15.

*Expt 109: P 1 and O 6 (class A iv).*

The olf. Sn was at first slightly pl., but as it continued it became unpl. and seemed to get increasingly so, so that if it lasted longer it would have become offensive. The P. Sn was somewhat slightly unpl. throughout. Contact Sn appeared at first but was submerged by the P. Sn. It was very difficult to compare the f.t.s of the two Sns. I could not say that  $\delta 14$ . they differed from one another as f. but as these expts go on I become less and less able to view the f. as something distinct from the Sn on the one hand and the motor reaction  $\epsilon 3$ . on the other hand. I should say that the Unpls of the P. Sn bore the same relation to the Sn as the disagreeableness of the olf. Sn bore to that Sn. A part of the difficulty of comparing  $\delta 3$ . the f.s simly arises from the difficulty of appreciating the true character of the different Sns each for itself, thus as to the olf. Sn in this expt it was some time before I could make up my mind as to what it was (i.e. the real expe itself) and secondly whether it was or  $\theta 3$ . was not agreeable. The P. as it developed had a new modality, it was not a contact Sn of  $\theta 5$  & 2. unpl. f.t.s. The f.t. of the olf. Sn at its height was much stronger than the f.t. of the P.

*Expt 110: G 4 and P 2 (class A iv).*

Both unpl. The P. Sn decidedly more so. The taste purely bitter, but in its extension it has something satisfying about it due, I should say, to the faint stimulation of a number of end organs. It excites very little inclination to get rid of it. Whether this is due to my liking for quinine as a tonic, I cannot say, but I think not. The P. Sn was decidedly  $\theta 3$  & 5. unpl. and became increasingly so. Its modality was entirely different from contact and called forth towards the end a decided desire to stop it. So far as the two f.t.s could be  $\epsilon 2$ . compared no difference of quality could be detected. Even with the P. Sn there was a  $\beta 2$ . slight admixture of satisfaction, at least at the beginning of it.

*Expt 111: P 3 and T 6 (palm) (class A iv).*

Both unpl., but the P. Sns much more so. In the contact Sn there was only a very slight admixture of P. at the border, the edge of it. The Unpls of the contact Sn was not unmixed. There was a slight expe of satisfaction, agreeable. The P. Sn was increasingly unpl., more unpl. than either the pressure or prick Sns of previous expts this afternoon.  $\epsilon 2$ . As to quality there was no perceptible difference between the two Sns, but only in i.  $\theta 3$ , 4 & 5. - P. is a Sn of a different modality to the contact Sn and is quite different from its f.t.

26/1/16.

*Expt 112: Stroking palm of hand (class G).*

Slightly disagreeable. Sensational warmth and contact, slight tickling. remarkable after-Sn of warmth.

*Expt 113: P 1 (st. gradually increased) (class G).*

θ 5. A slight contact Sn, < pressure, slight P. produced along with the contact. P. <. Inclination to withdraw hand, wondered whether at one point the increased P. Sn did not amount to a difference in quality, probably not, only in i. I began to think that the pressure λ 1. must draw blood. Stronger inclination to withdraw hand. P. never amounted to strong P. Sn.—F. at first indifferent, gradually becoming unpl., at last decidedly unpl. Increase α 1. ε 2. θ 6. of Unpls decidedly greater than the increase of i. in P. Sn.

*Expt 114: A 5 and G 4 (class A IV).*

The Sns on my tongue were at first coolness and very faint pricking. The Sn of bitter developed very slowly. All slightly unpl. When the bitter Sn developed it became more unpl. The aud. Sn itself slightly unpl., but excited associations which reduced the Unpls, μ. κ 1. δ 15. or counteracted them by the Pte of interest. It seemed like machinery at work. I can compare the f.t.s of the two groups of Sns sufficiently to say that the gust. was the stronger δ 14 & 16. Unpls. The f.t. is an additional expce in some sort, but incapable of being distinctly separated. It is an adjunct of the Sn. Thus the f.t. of the gust. Sn is much more localized than that of the sound. The sound is objectified and its f.t. in a greater degree central than in δ 3. — the case of the taste. I could not compare these simly.

*Expt 115: O 3 and A 2 (class A IV).*

The olf. Sn was unusually difficult to classify and its f.t. also very difficult to determine. δ 10 & 13. It seemed to be partly, or sometimes, pl. and partly, or sometimes, unpl. Very baffling. The tone Sn was pl. so far as it was pure. The olf. Sn was completely localized and its δ 16. f.t. was also localized. The f.t. of the tone Sn was less localized. The Sn itself was in a great measure objective, but not so objective as the aud. Sn in the previous expt (A 5). δ 4. — I could not compare the f.t.s simly, partly because of the difficulty of introspecting the f.t. of the odour.

*Expt 116: T 3 and P 1 (class A IV).*

θ 5. The point excited first contact Sn and with this a little later a faint P. Sn which at λ 1. first gave rise to an inclination to withdraw the hand. Then this inclination passed off θ 1. and the contact-P.-complex became slightly pleasureable. The other st. excited extensive contact Sn perceived as due to the application of a soft substance; it was slightly pl. I was δ 3. better able than usual to compare the f.t.s simly, or very nearly so. The f.t.s were much more alike than the Sns, but the contrast between the Sns affected the introspection of ε 2. the f.s so far that I could not say that the f.s were quite the same. Both f.s were localized δ 16. together with the Sns, but the f. of the soft Sn (T 3) was more diffused centrally than that of the other. It was more massive and more agreeable and purer. I think that with the β 3. faintly agreeable f.s of the prick Sn there was combined a slight central disagreeableness with the idea of being pricked. This made it less pure.

2/2/16.

*Expt 117: V 4 and G 3 (class A IV).*

Taste st. was at first experienced as merely liquid and slightly burning. Then sour Sn with special quality of vinegar developed, slightly unpl. The vis. st. gave rise to mixed δ 10 & 13. and alternating f.s. Probably it was at first a mixed f. which resolved itself into a pl. f.t. from the red element of the st. and a certain dissatisfaction from the achromatic element. When these were analyzed they alternated, the pleasing f.t. being stronger and predomin-

ating. It was then difficult to compare the f.t.s of the Sns aroused by the different stimuli, but some approach to comparison would remain between the f.t. of the taste and the unpl.  $\lambda 1$ . f.t. of the vis. Sn. Both excited movements of rejection. It was possible to compare the  $\delta 3$  two unpl. f.t.s more nearly simly, than the pl. and unpl. elements of the f.t. excited by the  $\delta 16$ . vis. complex of Sns after they had been separated. The f.t. of the taste was more localized than that of the vis. Sn. The f.t. of the vis. Sn seemed to be connected with incipient  $\gamma 2$ . movements that were excited.

*Expt 118: T 2 and O 1 (class A IV).*

$\delta 16$ . Both Sns were agreeable. The olf. Sn excited a localized f.t. which was agreeable and  $\alpha 3$ . a diffused f.t. which seemed to be connected with the lungs and a general slight muscular relaxation, also agreeable. The tact. Sn included or was accompanied by a slight tickling which was slightly agreeable, so that the whole effect was made up of a f.t. accompanying the soothing tact. st., which I suppose is a general relaxation, and a f.t. accompanying the excitement due to the tickling which I take to be also a diffuse Sn (i.e. the excitant). The f.t.s could be compared better than in the vis. and gust. Sns of the recent expt, but I  $\delta 3 -$ , could not succeed in getting them sim.

*Expt 119: T 6 and A 4 (class A IV).*

Both unpl. The tact. st. excited besides the perception of roughness, P. Sns at a number  $\alpha 4$ . of different points. The Unpls of the complex proceeded chiefly from the P. Sns. From  $\eta 2$ . the direct effect of the P. Sn, however, I distinguished an Unpl. of apprehension that the  $\alpha 2$ . skin might be abraded. The aud. st. was slightly unpl., on account of thinness, want of volume; it had a penetrating effect, but it was not very unpl., much less disagreeable  $\delta 3$ . than the entaneous complex. I could compare them for a moment very well simly, for a  $\mu$ . brief time. Probably the Unpls of the aud. Sn was reduced by arousing a slight curiosity  $\delta 16$ . how it should be classified. The f.t. of aud. Sn was localized in the ear and that of the P. Sn in the hand chiefly. F.t.s of apprehension and curiosity were less localized, the  $\gamma 2$ .  $\lambda 1$ . apprehension especially was connected with an impulse to withdraw hand and the unpl. f.t. was partly connected with that.

*Expt 120: O 3 and G 1 (class A IV).*

$\alpha 4$ . The gust. Sn was pl., or rather the f.t. excited by the complex gust. st. was decidedly pl. The olf. Sn was on the whole pl. At first almost indifferent, and never decidedly pl.,  $\beta 1$ . but the unsatisfactoriness of it arose partly from the difficulty of classifying it. I could not remember what the name of it was. The difference of i. between the two Sns or complexes made them very difficult to compare.

8/2/16.

*Expt 121: A 1 and V 1 (class A IV).*

$\delta 11$ . The f.t.s of the two Sns were very similar and blended. Each of them was soothing  $\zeta 4$ . without being weakening, they produced a mixed mood in which strain and relaxation  $\delta 16$ . were combined. The f.s were partly localized, as cohering with the Sns which in themselves seemed agreeable. Partly and chiefly the f.t. was diffused and belonged to the mood. The Sns were remarkably pure, i.e. after the aud. st. had lost its noise quality the tone became prominent. I could hardly be said to compare the f.t.s simly because they fused quickly and were then indistinguishable.

*Expt 122: G 2 and P 3 (class A IV).*

The gust. Sn developed very slowly, at first it was indifferent then as the special flavour of raspberry emerged it was slightly pl. This soon passed off and then there re-  $\delta 16$ . mained a slightly unpl. saccharine Sn diffused over the tongue. The f.t. was chiefly local  $\lambda 1$ . and in the third stage of development it was connected with impulses to move the tongue.

α 2. The P. Sns gave at first rise to contact Sns and then slightly dull P. It seemed to me unusually dull as if no P. spot had been directly stimulated. Its Unpls in itself was never great, but the d. of the st. became increasingly unpl. I could distinguish the immediate  
 δ 17. Unpls of the P. itself from the Unpls of its d. The f.t.s accompanying the two Sn modalities  
 ε 2. were opposed in their en. tendencies, but difficult to compare in themselves as if they were too wide apart. Each of them was for the most part localized. The f.t. of the gust. Sn was more completely localized than that of the cutaneous Sns. The P. Sn was never  
 δ 3 -. strong enough to mask the contact Sn it accompanied. I could not attend to the two f.t.s  
 β 3. simly. The f.t. described above as due to the d. was excited by the idea.

*Expt 123: O 4 and V 4 (class A IV).*

ξ 4. The vis. st. was unpl., it produced an attde of dissatisfaction. The olf. st. was very unpl. and produced a strong reaction of rejection shown by blowing through both mouth  
 γ 6. ε 2. and nostrils. Attde of disgust in fact. I cannot say that I distinguished any difference of quality in the f.t.s, but only of i., i.e. to say, after making allowance for all the differences  
 δ 16. of Sn qualities and reactions. Both were partly localized as cohering with Sns, partly  
 δ 3 -. diffused as connected with reactions. I do not think I could compare them quite simly because the f. of the olf. Sn was so strong as to be exclusive whilst it lasted.

*Expt 124: T 1 and V 2 (class A IV).*

Both experiences were pl. and I could come nearer to comparing them simly than usual, δ 3. though I cannot say confidently that the simultaneity of comparison was complete. The vis. st. was the more pl., it was in a manner exalting, it produced a sort of imaginative  
 ξ 4. exhibition without definite ideas. The cutaneous st. excited contact Sns that were soothing  
 δ 10. and tickling Sns which had a very rapidly varying f.t. of Pls-Unpls in which the Pls  
 decided preponderated. The total f.t. was less intense and less pure than that of the vis. Sn. The shifting of the eye towards the end of the vis. st. brought a negative Sn across  
 δ 6. the st. paper which altered the col. and greatly reduced the Pls. The f.t. accompanying  
 δ 16. the cutaneous Sn was much more localized than that of the vis. Sn.

9/2/16.

*Expt 125: V 5 and G 4 (class A IV).*

The taste Sn passed through three stages: (1) coolness, very faintly unpl.; (2) pure bitter, which was more unpl.; (3) the specific quinine expe which was partly pl., that is  
 β 3. to say, there was a Ptre connected with the idea that it was quinine. The bitter remained  
 unpl. The vis. Sn was almost indifferent but chiefly unpl., it had something crude and  
 δ 16. repellent in it. The f.t.s of both Sn complexes were chiefly localized with the Sns themselves.  
 ε 2. I could not detect any qualitative difference except the pl.-unpl. contrast and I could  
 δ 4 -. not compare the f.t.s of the different complexes simly and they did not fuse.

*Expt 126: Hot and Cold Water Hand-baths (Instructions as before; attend to f.t.) (class E).*

Cold Sn at first slightly pl. then short interval of uncertainty and then the Unpls developed. When I first put my hand in the warm water it was pl. and remained so through  
 μ? κ 1? out. The first effect was to reduce the Unpls of the cold Sn, but that seemed to me to be due to distraction. After a short time the Unpls of the cold returned and intensified, but  
 α 2. that seemed to be due to the continuation of the st. rather than to any contrast with warmth Sn. I could not compare them simly with any satisfaction, although I tried to  
 κ 1. do so. I felt that the attempt to distribute the attn, merely reduced the i. of the f.t. of  
 κ 2. the cold Sn. As soon as that expe was allowed to complete itself, to develop freely, it absorbed the attn to itself. I could attend to the two Sns more nearly simly. I could be  
 δ 4 -. aware of them simly, but I could not be aware of the two f.t.s simly.

*Expt 127:* Repeat above with different instructions, viz.: Do not attend particularly to f.t. but abandon yourself to the expee (class E).

The warmth Sn developed much quicker than the cold Sn and attained its maximum, both as Sn and f.t. almost immediately. The cold Sn was much slower in reaching a maximum and its f.t. was slower still. I do not know that it ever reached a maximum, I think it was always slightly <. The expee was very little different to that I had under the former instructions. The hand in cold water after the expee became decidedly cold and unpl., seemed as if it was separated from the rest of me. Something that I experienced out in space. I had no such expee with the warm hand. It was as if from the knuckles up to the shoulder there was nothing. I could be aware of the two experiences simly, but cannot  $\delta 4$ ? say really whether I was aware of the f.t. simly or not.

*Special Instructions:* live the expee, and describe it as fully as possible.

14/2/16.

*Expt 128: T 1* (class B 1).

Sn of slight diffused contact st. perceived as due to a soft body, slightly pl. Excited  $\beta 3$ . ideas as to when and how often it would be repeated. These ideas were faintly unpl. As compared with former expts there was less strain of attn. The whole expee was, of course,  $\delta 16$ . less complex. Sns were pretty definitely localized and the f.t. cohered with them. Besides the contact there was temporary cool Sn. No e. motor reactions.

*Expt 129: O 2* (class B 1).

First a vague awareness of some olf. Sn from which emerged a special Sn which was classed as heliotrope but this passed into another special Sn which I could not class but which differed in f.t. The heliotrope Sn was pl., the later phase unpl. After a time the heliotrope perception returned and after the st. was removed this heliotrope effect returned for very brief periods by inhalation. I was puzzled by the change from pl. to unpl. This  $\beta 2$ . puzzle C. was rather unpl., more unpl. than the third phase of the Sn, but the Unpls of  $\lambda 1$ . the third phase of the Sn was shown by motor impulses to withdraw from st. I don't think the expee differed from that of former expts except by its less complexity and less strain on the attn, especially as not having to attend to the f.t. *per se*.

*Expt 130: G 2* (class B 1).

Sn of coolness and contact slowly diffusing, perceived as liquid then a faint sweetness upon which was superinduced a special raspberry flavour, very faint. The area of Sn gradually extended itself over tongue and palate and became faint sweetness with some-  $\lambda 1$ . thing else very difficult to describe, something that excited attempts at swallowing. It is not exactly sweetness, nor exactly astringency, perhaps a mixture of these. It is chiefly in the palate. The first stage is slightly pl., the second stage more so and the third unpl.  $\gamma 2$ .  $\kappa 3$ . The expee was accompanied by some effort due to the difficulty of the analysis, this effort was slightly unpl. Compared with former expts this expee was less complex and, except in the last phase, required less effort. Even in the last phase the expee was free from the peculiar efforts involved in the comparison.

*Expt 131: T 2 and A 3* (class B 1).

Contact Sns with movement and very slight tickling perceived as the movement of a very soft body on the back of hand. Into this broke the aud. Sn causing some surprise and a sense of incongruity which soon became comic. The aud. Sn seemed rather of poor quality as if it contained some grating noise. It entirely distracted attn from the contact Sns. The contact Sns were fairly pl. The aud. complex was pl. so far as it was tone and unpl. so far as it was noise. I was aware of the two elements and of their different f.t.s. The

$\lambda 1.$  contact Sn excited no impulse to withdraw the hand, but the first effect of the and. Sn was an impulse to start, to move suddenly, but I don't think it completed itself. There followed some curiosity as to the constitution of the Sn. Then I remembered that I must also attend to the contact Sn so as to have the whole expe. The whole effect was very strange, very novel. As I said it became comic. I do not think that the expe differed from the earlier expts except in this peculiar character of it and there was less effort of attn on the whole.

16/2/16.

*Expt 132: G 4 and T 2 (class B 1).*

Cutaneous Sns of slight coolness, light contact, slight tickling, changing its place, perceived as the movement of a light soft body over the skin of the hand. The tickling was slightly unpl. and the rest pl. The different f.s cohered with the different Sns. Tongue Sns: slight coolness perceived as a liquid, slowly diffused over the tongue, developed bitter Sn, very little special character, perceived as probably quinine. Afterwards extended to the palate with more definite quinine character. On the palate slight astringency. The whole slightly unpl. Before the Sn had developed on the palate there was a good deal of doubt as to the nature of the st. The two stimuli did not affect C. equally at any time unless I tried to compare them. Apart from the attempt to compare, one or the other was always strongly predominant. The gust. Sn tended to predominate for longer times than the cutaneous.

*Expt 133: V 1 and A 5 (class B 1).*

The vis. Sn pl. The character was satisfying, restful. The and. Sn rather unpl., but not so penetrating or distracting as to prevent steady contemplation of the cols. It nevertheless tended to predominate, when once attn was given to it. Very difficult to make any comparison. It was as if the two experiences were too wide apart. I think at the  $\delta 4.$  moment when attn moved from the vis. to the and. Sn the pl. and unpl. f.t.s were very nearly sim. I could not say they were exactly so.

*Expt 134: O 5 and P 1 (class B 1).*

Slight prick Sn, rather pl. than unpl., hardly produced P., could not go on with it on account of the irresistible nausea of the odour. The odour was at first vague. St. C then  $\lambda 1.$  developed a special character quite intolerable. Nothing seems to excite so violent reactions as an unpl. odour. It would be useless to continue the expt because the odour  $\kappa 2.$  absorbed the total attn, the prick ceased to be c. Accordingly I could not compare them except by retrospection.

21/2/16.

*Expt 135: Expt to introspect about co-existence of f.t. (G 2 and P 1) (class E).*

The tongue Sns were first coolness, gradually diffusing perceived as liquid, then emergence of a raspberry flavour growing more definite and pl. The specific flavour gradually gave way to a general saccharine taste communicated to the palate and rather disagreeable. The skin Sns were light contact followed by P. slightly unpl. Generally I could not be distinctly aware of both the Sn complexes simly. The attempt to get them sim. led to fluctuation of attn, passing from the one to the other, but at intervals something approaching simultaneity was reached in the attde in attending chiefly to the gust. st. whilst maintaining some awareness of the cutaneous Sns. This attde was very unstable and continued always tending to pass into attn to the cutaneous Sns. The attde of attending to the cutaneous Sns whilst maintaining awareness of the gust. was still more difficult to maintain. I could not satisfy myself that it was really ever established. When I attempted to

$\gamma 2.$   $\kappa 3.$  distribute the attn equally to both Sn complexes C. of them became too vague to  $\delta 5.$  compare their f.t.s. The f.t. of the effort was unpl. and possibly masked other f.t.s.

*Expt 136: V 1 and A 4 (class E).*

The col. Sn was very agreeable, satisfying and tranquillizing. The aud. Sn was slightly unpl. and, at first, when it broke into the col. C. there seemed to be a moment when its f.t. was sim. with the col. f.t., but it was only momentary. During this momentary inter-  
δ 4. ruption the two f.t.s seemed to be present together. Afterwards the attempt to bring them together led to an oscillation of attn between the two.

*Expt 137: Remembering some expe and introspecting whether any accompanying f. is the memory of the previous f. (class D).*

I attempted at first to recall an unpl. olf. Sn but found that I had not really an olf. image of the Sn but merely a knowledge that I had had it and that it was very unpl. But this knowledge of its Unpls was signified by impulses to turn away the head which I have had at the original experiences. I do not think that either the knowledge of having

• 1 & 2. had the Sn nor the knowledge that I had found it unpl. was a true reproduction of the former expe. I then tried a vis. memory of the deep blue col. (V 1) that I had seen. Of this I obtained a true reproduction or image which was agreeable. I am not able to find any mark by which I am able to say whether the f.t. of the reproduced blue col. was a memory of the former expe or whether it was excited by the present memory image.

23/2/16.

*Expt 138: Expt introspection as to co-existence of f.t. (T 2 and O 6) (class E).*

Light tact. Sns, perceived as a moving soft st., slightly pl. with very slight tickling, also slightly pl. Olf. Sn of a quality that I could not distinctly classify, slightly pl. as Sn.

γ 2. Introspection disturbed by attempts at classification, slightly unpl. I could for a short δ 3? period be aware of both Sns but could not be sure that I was discriminatively aware of the two f.t.s simly. Distinct C. of the f.t. seemed to require attn to one or the other, but the Sns and the f.t.s were all of such low degree that I could not be sure whether it made a difference whether I separately attended to the f.s or not, a slight diversion of attn from either Sn or f.t. made them almost disappear.

*Expt 139: Expt as above, respecting co-existence of f.t. (G 1 and P 3) (class E).*

Much more favourable conditions for observation. The P. Sn was intense enough to have a very distinct f.t. without being absorbing. The taste Sn was also pl. without being absorbing. I could be aware of the two Sns simly more easily and for a longer time than

δ 4. in the foregoing expt and I think the f.t.s were also for a time sim., but if so it was for shorter periods than the co-C. of the Sns. Any attempt to attend to one or the other of the κ 1. f.t.s always put an end to the other. Attn to f.t. needs greater effort than attn to Sn. It is a deeper state of abstraction and the content is more fugitive.

*Expt 140: To remember a f.t. (class D).*

The tone (A 1) was reproduced in memory at first an octave higher. I became aware of this discrepancy and then reproduced it an octave lower with a "f. of satisfaction." I can easily distinguish the knowledge that the Sn had formerly been very pl., from the f.t.

• 1 & 2. accompanying the reproduction which was very faint and uncertain, being masked by the effort of reproduction and a great complex of accompanying ideas and Sns, e.g. the impulse to sing the note and to substitute the laryngeal and other utterance Sns for the aud. image. These movement impulses seemed very helpful towards sustaining the aud. image, but the effect was confusing. Whether the f. accompanying the reproduced tone was itself a memory or a new product of expe excited by the memory of the Sn I could not determine by introspection.

*Expt 141: Expts on Introspection as to co-existence of f.s (G 2 and A 5) (class E).*

Very difficult so compare the two Sns. Still more difficult to compare the f.s. The gust. Sn was pl., perceived as raspberry flavour. The aud. Sn was slightly unpl., especially

when it increased in i. I could be aware of both Sns simly, but could never be sure that I  
 5 4? appreciated the f.t.s at the same time. The distribution of attn reduces the clearness of  
 every constituent of the contents and the f.t. of its contents, always relatively obscure,  
 becomes still more so. I seemed better able as the gust. Sn continued, after the aud. Sn  
 had ceased, to compare it with the memory of the aud. Sn than I had been to compare  
 the two Sns, but it was still doubtful whether I could compare the f.t.s simly. I knew what  
 the f.s were.

*Expt 142: On co-existence of f., as above (O 3 and A 4) (class E).*

Both Sns slightly pl. I could not recognize the olf. Sn, i.e. I could not classify it. I  
 5 3 seemed to come nearer than I can remember to havé done before to sim. apprehension  
 of the two Sns and also to sim. appreciation of their f.t.s. They were both slightly exciting.  
 It is somewhat doubtful whether the Pls of the aud. Sn which is not usual at such pitch  
 was not due to my satisfaction in hearing it at all, being somewhat deaf this afternoon.  
 I seemed at the same time to know that there was a certain quality, a sort of whistling  
 quality, connected with the tone that was disagreeable without f. it to be so.

*Expt 143: Expt to remember f. of aud. Sn (A 5 and 4) (class D).*

The scraping noise is supported in C. by representative movements of the hand as if  
 I were producing the noise (scrapping on a cigar-box). Abstracting from this there remains  
 an aud. expe somewhat faint but of a distinct quality which is unpl. The Unpls is greater,  
 i.e. more intense in comparison with the memory than the former Unpls was in comparison  
 with the Sn, that is to say, the aud. Sn was far more intense than the memory image, but  
 1 2. its Unpls very little more. The whistle Sn is much more self-sustained than the scraping  
 and more distinctly represented. Its f.t. is less pl. than that of the original Sn and this I  
 think is due to the greater prominence of the vibrating whistling effect compared with the  
 tone in the reproduction than happened in the original. It was not the original f.t. remem-  
 bered.

1/3/16.

*Expt 144: Introspection on co-existence of f. (A 1 and V 6) (class E).*

Aud. st. extremely pl. Soothing and yet bracing. The vis. st. slightly disagreeable.  
 5 5. Generally the agreeableness of aud. st. was so great that it masked the f.t. of the vis.  
 15. st., so much so that at one time I was tempted to think the latter had become agreeable.  
 Generally found it difficult to attend to them simly to apprehend them without a decided  
 4. transfer of attn, but at the third expt I thought that the two f.t.s, i.e. pl. and unpl., were  
 sim. in C. for short periods. This involved the giving of the chief part of my attn to the  
 vis. st. and its f.t., whilst passively experiencing the aud. Sn with its f.t.

*Expt 145: Expt to remember f. of vis. Sn (V 6) (class D).*

I could recall the vis. perception but with very faint colouration, which had no stability.  
 It was most easily sustained by directing my closed eyes to the spot where I had seen the  
 square but the greater part of the expe was knowledge rather than revived perception.  
 The f.t. was much the same as during the actual expt, but slightly fainter. It seemed to  
 16. be strangely located in my throat which I had not been aware of during the period of actual  
 perception. The reproduction of the percept did not involve verbal clues. There was a  
 very faint reproduction of the percept together with an effort to intensify it. The Unpls  
 17. 2. of the effort was quite distinguishable from the Unpls of the reproduction. In this case  
 it seemed to me that I was aware by direct introspection of the dependence of the f.t. on  
 1 2. the reproduction and not on a memory of itself.

*Expt 146: Expt to remember f. of aud. Sn (A 1) (class D)*

Cannot reproduce it satisfactorily. Mostly throat movements, at first as if singing.  
 By degrees it became more distinctly aud. but probably was an octave higher than the

original. The f.t. was very faint but otherwise similar to that of the original perception.

1 & 2. A good deal masked by the effort of attending to the reproduction. I could not determine introspectively whether the f.t. was a reproduction or due to the st. of the revived idea.

13/3/16.

*Expt 147: Cg. T 3 (class B II).*

I perceived a soft body, probably velvet, moving over the back of my hand. The local expe in the back of the hand was of light tact. Sns mingled with very slight tickling at successive points of the cutaneous field returning after an interval to the spot started from. As the contact Sn ceased at each point there was a positive Sn of not being touched, which may be called the negative of the contact. The perception raised by these Sns was in a large measure a vis. process. The eyes turned towards the hand, but my eyes being shut I could see nothing. Before the application of the st., however, I had momentarily seen what you held in your hand and believe that this helped to develop the perception. The perception, however, was without true retinal content. It consisted in the direction of the eyes and a judgment as to the nature of the st. applied to my hand. The expe was slightly pl. There was no cn. impulse to withdraw the hand. The whole cn seemed to be absorbed in the act of attn to the cg. content. (It was retrospection based on immediate introspection, so far as the cg. content was concerned, but purely retrospective as to f. and cn.)

*Expt 148: aff. T 3 (class B II).*

Agreeable and soothing C. Slightly disturbed by disappointment at the non-renewal of Sns over the third joints of the fingers which were touched early in the expt; subsequently the contact did not extend beyond the knuckle. I had the impressions of an imperfect circle being executed. But the cgn excited by the Sn gave no clear image of a circle. The cgn beyond this was somewhat as in a foregoing expt, but much less distinct. I was not aware of any cn beyond the act of attn except in the form of a slight desire that the st. should be renewed on the third finger joint. I am not aware that this desire was accompanied by any impulse to move the hand so as to attain such expe. (The account of the f. and that part of the cn. account, viz. that of the desire is the memory of introspection. the rest of the cn and almost the whole of the cgn is retrospection.)

*Expt 149: Cn. T 3 (class B II).*

No observable cn except the attentive attde, I believe, but possibly there were faint impulses to move the hand in such a way as to meet the movement of the st. and thereby intensify the expe. The f.t. was agreeable. (The cgn indistinct and representative, that is to say, it was a knowledge of the st. with very little perceptible character. The record of the cn and f.t. is based on introspection, the report of the eg. element of the expe is chiefly retrospective, the retrospection of introspective material which has become cleared.) The more I thought of it the more inclined I was to say that the impulse to move the hand really occurred.

15/3/16.

*Expt 150: A 1 aff. (class B II).*

My C. was at first cg., I heard a sort of introductory sound before the tone developed.

κ 1. I then fell into the study of the aff. side without difficulty. It was agreeable, satisfying, soothing, solemn. After concentrating upon the f.t. as much as possible, the cg. content was greatly reduced. I was not distinctly c. of any impulses. I felt a little wonder that there was no impulse to turn the head to listen better, but probably the head was perfectly adjusted for the maximum effect of the st. (It is all the reproduction of introspection, except the last sentence.)

*Expt 151: A 1 cn. (class B II).*

I heard the sound and then turned to study the cn effects, if any, but could find  
 κ 1. none apart from the efforts involved in the attentive attde. The efforts to concentrate  
 upon cn greatly reduced both the eg. content and the f.t. The tone seemed to fall into  
 the background and the f., which so far as it existed was very agreeable, seemed almost  
 to disappear. The mind became almost empty. (This is all reproduced introspection.)

*Expt 152: A 1 eg. (class B II).*

I perceived the tone of a tuning fork which continued with slight fluctuation in i. and  
 gradually died off. The expe was agreeable, but the C. of the agreeable f.t. only became  
 prominent once or twice during a slight lapse of eg. attn. As to cn besides the general  
 attde of attending there were slight eye movements in the supposed direction of the sound  
 and very slight Sns of strain in the ear, more in the left than in the right which is slightly  
 deaf. (This is all reproduced introspection.)

22/3/16.

*Expt 153: O 1 cn. (class B II).*

There is very little to say. Besides the cn of attn I was only aware distinctly of the  
 effort to inhale as freely as possible so as to obtain the full effect of the st. This attde of  
 trying to attend to the cn. was only partially successful. Several eg. activities pressed for-  
 ward, such as an attempt to classify the odour and to remember when I smelled it before.  
 The f.t. also excited eg. activity, e.g. the difficulty of judging whether it was pl. or not.  
 These intervening ideas, however, did not, I believe, prevent me from observing all the  
 cnns that were present and within the bounds of observation. (So far as the cn is concerned  
 it is the reproduction of introspection. The eg. and f. aspects were less distinctly observed  
 at the time of their occurrence and the report is a sort of development of observations  
 then made. A recollection of the observation filled out by retrospection.)

*Expt 154: O 1 eg. (class B II).*

I perceived an odour which I judged to be the same as I had formerly experienced  
 but could not classify it with any other odours. I was able to judge more confidently  
 that it was agreeable. I was aware, though not very distinctly, of the cn of attn, the  
 effort to classify and remember, the attempt to regulate my breathing so as to obtain a  
 maximum of stimulation and a movement of the head from side to side with the distinct  
 purpose of bringing each nostril alternately over the st. (The report is almost entirely  
 the reproduction of introspective observation.)

*Expt 155: O 1 aff. (class B II).*

I perceived an odour and immediately turned to the aff. t. of it. This I found more  
 κ 1. agreeable than I had done at the former expts. For a short time this attde was fairly  
 steady but was soon broken up by ideas as to the nature of the st. and by the occasional  
 prominence of motor or cn. activities directed to obtain a maximum effect of the st. The  
 attde of attn to the f.t. especially was recovered for a brief time towards the close of the  
 expt. I am not sure that I made a maximum effort to attend to the f. only. (The report  
 is chiefly the reproduction of introspection except the last sentence.) No perseveration of  
 former attde in any case.

27/3/16.

*Expt 156: V 6 eg. (class B II).*

I saw a piece of green-yellow paper. I could not help recognizing it as one I had  
 formerly seen and disliked. I managed to suppress the impulse to attend to the f.t. Then  
 I observed that the paper seemed to be somewhat mottled as if it was more green in some  
 parts than in others and shaded. I seemed to be able to distinguish green and yellow  
 elements of the surface. Then I was aware of lighter portions around the edge. I inferred

that I must have moved my eyes in examining different parts of paper and that the lighter  $\kappa 1.$  margin was contrast effect. It became so interesting that I lost all C. of its unpl. f.t. Cnn was entirely absorbed in attending to the object and this of course involved eye-movements of which I was not immediately c. From time to time I was aware of coloured surfaces and indistinctly of objects in the background, i.e. within the vis. field beyond the margin of the paper. (All introspective except reference to loss of C. of f.t.)

*Expt 157: V 6 cn. (class B II).*

The cn. attde was difficult to maintain, because there was so little to do. I perceived slight creases in the paper and was aware of a wish to smooth them out. The Unpls of  $\lambda 1.$  the col. also became prominent and excited an impulse to turn away or put paper away, i.e. it excited some sort of repulsion. The interest of the eg. attde frequently revived and interfered with attn to the cn. aspect of the situation. I felt as if the expt lasted too long, because it gave rise to nothing but repetition of the expe of the first few seconds. (All introspective.)

*Expt 158: V 6 aff. (class B II).*

At first the st. was more agreeable than it had been on former presentations. I thought  $\delta 7.$  this might be due to mere stimulation or excitement and then that it might be due to my having become used to it. Then it again became unpl. It seemed to be fixed in my mind that I did not like it. The thought occurred that its unpl. quality was due to a sort of mottle-appearance. The col. was neither one thing nor another. This attde persisted to the end. Attn to the f.t. could not be sustained without the interruption of phases of attn to the  $\lambda 1.$  eg. or cn. aspect of the situation. The cn. effect was shown by a turning of the head to and fro and a knitting of the brow. (Introspective all.)

15/5/16.

*Expt 159: A 5 aff. (class B II).*

At first I did not realize that the expt had begun as I expected a tone. Then I became aware that this rubbing scratching was probably the st. and gave myself up to the study of its aff. aspect. I found it faintly disagreeable but not acutely. It seemed a part of all the disagreeable noises one hears in a train and makes up one's mind to disregard. No change in the aff. character throughout. I wonder in fact that it did not become more annoying. But it contained nothing penetrating or threatening and called forth no special cn. reaction, i.e. no impulse to stop up my ears, turn away, etc. (Entirely introspective.)

*Expt 160: A 5 en. (class B II).*

The expe was much the same as before, except the cnn of attn. There was no impulse directly related to the aff. side of the expe but I was aware of an impulse related to the eg. side, viz. to move my hand or in some way follow the curve, which I supposed to be described by the moving object that produced the noise. That it was a curve was inferred from the rhythmic change in the character of the noise. No cnn relative to the slight disagreeableness of the noise. (All introspective.)

*Expt 161: A 5 eg. (class B II).*

I found myself chiefly occupied in trying to make out what kind of tool was used in making the scratches. I thought it must be a knife or a sharper instrument than in former expts. The character of the noise was different including at one stage of each scratch a sharp grinding sound which was far more disagreeable than the rest. In relation to this  $\lambda 1.$  there was a cnn to withdraw or make some defensive reaction. But this cnn was very indefinite because it was almost entirely masked by the effort of attn. Compared with  $\beta 4.$  the unpl. phase of each scratch the rest was comparatively agreeable, i.e. it was a relief. (All introspective.)

19/5/16.

*Expt 162: G 4 aff. (1 drop) (class B II).*

The first expe was of a slightly sweet liquid, so slight that I thought there had been an inadequate st. The sweetness was slightly pl. and so was the liquidity. As the st. diffused itself over the tongue a bitter taste emerged; this was also slightly agreeable. I could not help turning to the eg. aspect of the expe and examining the flavour and find whether it had the special quality of quinine, which, for a long time, I could not detect. In examining this matter I became aware of a good many movements of the tongue tending to define the flavour. Returning to the aff. aspect I found it continuously agreeable. (Introspective.)

*Expt 163: G 4 eg. (1 drop) (class B II).*

I was first aware on this part of the tongue stimulated of a Sn of slight contact and coolness, which were interpreted as a liquid. The st. was slightly pl. The Sn very slowly extended over the tongue; I became aware of the whole inside of my mouth and then of the surface of my face. Recalling attn to the Sns I found they now proceeded from the palate and the middle and the back of the tongue. The bitterness was a good deal more intense than in the former expt and slightly disagreeable. As before movements of the tongue were provoked in order more completely to realize and define the extensity and the quality of the Sn. (Introspection entirely.)

*Expt 164: G 4 cn. (1 drop) (class B II).*

I was aware of opening my mouth, putting out my tongue, waiting until the st. had been applied, withdrawing my tongue, closing my mouth and then waiting for the effect of the st. to develop. This took place very slowly. As it went on, however, it became slightly more unpl. than before. It excited salivation and impulses to swallow as if to get rid of the st. There seemed to be inhibitions of tongue movements as these increased the effect of the st. (this retrospective). It seemed that the concentration of attn upon the expe inhibited other cnns, so that there was in fact very little cn. expe resulting from the expt itself. (Bulk introspective.)

22/5/16.

*Expt 165: P 1 cn. (5 secs) (class B II).*

Slight contact Sn out of which arises a faint P. Sn. Not disagreeable at first and giving rise to no distinct cnn. As the st. continued it became slightly unpl. and gave rise to a hope that it would not last much longer, this is a state of cnn. It seems to me that whenever the cn. aspect of expe is made the direct object of introspection the cnn of introspection itself masks or inhibits whatever other cnns may have been excited, unless they reach a considerable degree of development. Hence there is a sense of emptiness when one is asked to describe the expe from the cn. side. (Beginning is introspective, the rest commentary.)

*Expt 166: P 1 aff. (5 secs) (class B II).*

Slight contact, then definite P. Sn of sharp quality, which rapidly became unpl. on the whole, and excited tendencies to withdraw the hand. Still, in spite of the disagreeableness, P 1. on the whole, there seemed to be something pl. in the core of the P. Sn. This Pls was sufficient in degree to inhibit partially, if not wholly, the tendencies to withdraw the hand. (Introspection.)

*Expt 167: P 1 eg. (5 secs) (class B II).*

Contact and then very rapidly P. Sn. The part of the hand stimulated was pretty definitely determined and was judged to be nearer the wrist and the little finger side of the

hand than the former Sns had been. The P. Sn was also judged to be decidedly more intense than in former exptes and unpl. in corresponding degree. I could not discover any dis-

λ 1. tinguishable Ptre in the expt. Accordingly there were excited decided tendencies to withdraw the hand. The period of stimulation appeared to be longer than in former expts. (Introspective.) There seemed to be, as I look back on the expt, that the P. Sn had a  
 θ 1. δ 5. certain pleasureableness which had gradually been masked and obliterated by the < displeasureableness. (Retrospective.)

24/5/16.

Expt 168: **T** 6 aff. (class B II).

I perceived an extensive moving contact st. of some very rough object. At first fairly unpl., then doubtful, then on the whole agreeable. It seemed of a slightly exciting, bracing effect and the rhythm of the movement was at the same time soothing. I felt sorry when it ceased. I was not aware of any cnns beyond the passive giving myself up to the expt, except at the first contact when there was a slight inclination to withdraw the hand. (All introspective except "felt sorry when st. ceased.")

Expt 169: **T** 6 eg. (class B II).

I perceived, as before, a rough surface of some object rhythmically moving to and fro over the skin of the palmar surface of the left hand just below the lowest thumb joint. The st. was less intense and the resulting Sns more uniformly agreeable than in the former expt. At no time a disposition to withdraw the hand. I was aware, besides the movement and extent of the Sn, of a slight difference of quality, as if the st. was sometimes sharper and sometimes obtuser. There were also some Sns of coolness. (Introspective all.)

Expt 170: **T** 6 cn. (class B II).

St. perceived as before, slightly more intense and less agreeable. The cnns present were first the attde of attn, secondly the keeping of the hand in the position required by the expt, thirdly perhaps some slight impulses to withdraw the hand, which however never obtained any definiteness. There was a conflict of desires; on one hand that the expt might come to an end, and on the other hand that it might last long enough to develop fully the expt. (Introspective.)

5/6/16.

Expt 171: **O** 4 eg. (class B II).

I was in a state of expectation as to whether I could smell anything, but the Sn quickly  
 δ 1. arose, which I seemed to recognize, but could not name. Presently a strong unpl. f. developed and then I thought it must be an extract of faeces or something like that, which I had  
 β 1. formerly smelt. The Unpls was an important factor in establishing the recognition. At  
 λ 1. the same time it excited a strong impulse to withdraw my head and to breathe out strongly through the nostrils in order to expel any remains of the st. (Introspective.)

Expt 172: **O** 4 aff. (class B II).

I awaited the st. with some trepidation. The Sn arose with a closely complicated f. of Unpls. The Unpls seemed immediately to accompany the Sn, not to lag behind as it did in the first expt by an interval of about 1 second. The Unpls then seemed to occupy  
 λ 1. C. almost entirely and gave rise to cnns of aversion. The Sn merely recalled former Sns under experimental conditions, not any st. that had ever occurred in ordinary expt. The Unpls had something of the same character as is produced by stitting. Its impulsive force was very great, one might say irresistible. (Introspective.)

*Expt 173: O 4 en. (class B II).*

The expee began with a cn. attde of expectation and submissive to an unpl. expt and turned immediately to an attde of attn directed to the Sn as it developed. Then, the Sn and its unpl. f.t. having been experienced, attn turned to the motor reactions which included

λ 1. first a tendency to withdraw the head, which was resisted, secondly to breathe out so as to get rid of the remains of the st. not only through the nostrils but through the mouth

η 6. where I think some nascent Sn is excited, possibly Sns of disgust rather than taste Sns. (Introspective except last part.)

7/6/16.

*Expt 174: V 1 aff. (5 secs) (class B II).*

On perceiving a deep blue col. I was aware at once of an attde of satisfaction and acquiescence. It was agreeable and at the same time rather sad. I was not aware of any purposive cnns, but there was a general relaxation of the body, especially of the muscles of the neck, the head tended to droop. There was a good deal I found impossible to express.

*Expt 175: V 1 eg. (5 secs) (class B II).*

I perceived the deep blue and recognized it as having been presented in the foregoing expt and on previous occasions. It did not suggest any definite associations, it was merely classed in the series of blues. F. of P1re as usual, mingled with some disappointment at finding the eg. content of the expee so slight. No cnm beyond the act of attn.

*Expt 176: V 1 cn. (5 secs) (class B II).*

Attended to the st., recognized the col., felt its Pls. Except that it held the eye, there was no distinct enm. The question occurred whether I would like a room papered with it. Felt a slight regret when col. was withdrawn. (Introspective.)

12/6/16.

*Expt 177: G 2 en. (1 drop) (class B II).*

I was at first aware merely of coolness over a small area at the front of the tongue. This lasted so long that I began to wonder whether I had lost my sense of taste. Presently, over a wider area a sweet taste emerged with a slight flavour which I took to be raspberry. This excited to impulses to move the tongue, press it against the palate so as to diffuse the flavour more widely. With this came impulses to swallow; gradually the taste ceased to be agreeable. It became a mere coarse saccharine Sn. This impelled me to cease attending to the expee and to begin to report it. (Introspective entirely.)

*Expt 178: G 2 eg. (1 drop) (class B II).*

I was again aware of coolness on front part of my tongue suggesting a liquid st. The liquid seemed to trickle forward towards the tip of the tongue and then to spread along the sides of the tongue and backwards. Slight flavour of raspberry appeared, of pl. tone. As the st. spread backwards over the tongue swallowing impulses were excited and I did swallow twice. The raspberry flavour then ceased to be recognizable. The saccharine Sn was left as before. (Introspective all.)

*Expt 179: G 2 aff. (1 drop) (class B II).*

As before a Sn of coolness, slightly agreeable. The extensity of the Sn increased and the flavour of raspberry emerged which was still more agreeable. This excited swallowing reactions and presently the raspberry flavour disappeared and the expee became slightly unpl. This persisted and, as no change seemed to take place, I put an end to the expt. (Introspective all.)

15/6/16.

*Expt 180: P 3 eg. (3 secs) (class B II).*

First a light scraping touch, then a second contact, then a Sn of P. which was perceived as the effect of a pinch. It was pretty distinctly localized at the lower outer margin of the left hand, about  $2\frac{1}{2}$  inches below the wrist. It differed from a point st. or prick by the apparent existence of an interval of skin between the points of contact. Decidedly unpl., yet there was no e. impulse to withdraw the hand, all other sens being probably masked by attn. The P. Sn was also duller than a prick. I believe (this is retrospective) a sens due to the Unpls of the Sn was shown by a tenser knitting of the brows. (Otherwise introspective.)

*Expt 181: P 3 en. (3 secs) (class B II).*

I was aware of a pinch as before and its Unpls. The P. was rather greater and more  $\lambda 1$ . unpl. than in the former expt. An impulse to withdraw the hand was, I think, shown by an increase of the effort in preserving the attde of attn in order not to interrupt the expt.  $\beta 4$ . There was a "f. of relief" when the st. was removed. (Introspective all.)

*Expt 182: P 3 aff. (3 secs) (class B II).*

Contact Sns quickly followed by P. which increased and was decidedly unpl. I was aware that the Unpls affected my breathing, making me draw a deeper breath. There seemed to be more in the expe than in that of the foregoing expts, a sort of confused C., aroused from the neighbourhood of the contact which I cannot analyse or describe  $\lambda 1$ . (possibly radiation). A en. impulse made me turn my head away to the right. (Introspective, except the two last observations.)

11/10/16. *Influence of Attention upon Feeling.**Statement.*

Attn to a Sn generally makes it clearer. When trying to attend to a f. it very quickly subsides. I cannot say I cannot attend to it at all, but it is only possible for a very short time. As to a f. on the border line between Pls and Unpls, I am not sure that there are such, but taking those of nearest approach to indifference, I should say that they may either become more pl., or more unpl. by concentrating attn upon the concomitant Sns or to the Sns that give rise to them. As to the 3rd quotation, to speak of a feeling being subjected to a psychological analysis is to assume that it is susceptible of analysis, which is only true in the sense that we can form some estimate of its d. and i., but in that case it is not the f. but its relations that we are attending to. I should say that our awareness of a f. is naturally indirect, as connected with something else which is really the object of attn. The biological purpose of f.s seems to me to draw our attn to some things and consequently make us act in relation to them and to direct our attn from other things or make us avoid them. This purpose would be interfered with, if we could attend to Ptre or Unpre itself.

*Expt 183: (T 2) Alternation of attn to eg. content and of attn to aff. content of C. (class C).*

The touch of the powder puff is pl., but it seems to me that the immediate content of attn consist almost entirely of contact Sns and ideas aroused by them. I am merely aware that it is pl. without having any distinct presentations of a pl. f. or f. of Pls. On trying to attend to the f. of Pls I immediately find that the chief content of attn is a complex of bodily Sns amongst which the most prominent are certain Sns connected with breathing, especially deeper inspiration. This state of attn is much wider, more complex and less discriminative, than the content of the foregoing state of attn to the tact. complex. It is doubtful whether I even momentarily could attend to the f. itself.

*Expt 184: Emery cloth:* Alternation of attn to eg. content and of attn to aff. content of C. (class C).

As to the emery cloth expt much the same is true. The content of attn was a Sn complex, and the Unpls in indirect C. When I tried to focus the unpl. f. itself I became aware as before of an extensive complex of body-Sns which differed from that which I have previously described in various ways, but especially in the different character of the breathing, which was no longer prominent in the complex. The maximum Pls of the powder puff touch coincided with the first application of the st. and diminished somewhat as the Sn excited became more distinct and clear.

16/10/16.

*Expt 185: (T 2)* Alternation of three attdes; attn to eg. and attn to aff. content and relaxation (class C).

I was aware of the st. traversing the back of my hand and giving rise to a number of distinguishable Sns, soft pressures, sometimes slight ticklings. The Sn complex was very distinct both in its qualities and extensity and was very agreeable. On turning to the f. attde I was aware of strong org. processes of my body and chest with deeper breathing and a fuller expe of the f.t., but still as a concomitant of the object of attn. I could not succeed in fixing the f. itself. On assuming an indifferent attde which involved turning of attn to some other object the effect was more like that of the second phase described than the first, i.e. the Sn complex due to the st. was very much obscured and sometimes almost lost, whereas the pleasureableness of the expe remained in full force.

*Expt 186: (T 2)* Analytic attde as regards f.s (class C).

I found then that in contemplating the Sn complex by itself or as such, it lost, in some measure, its spatial objectivity, became much less definitely localized as to the position and extent and ceased to be referred to a cause. Very slowly the pleasureableness of it decreased until it had almost disappeared, when I stopped. Once or twice, attn to the given Sn complex was interrupted by the intrusion into the field of attn of an org. complex which I described in the foregoing expt, viz. breathing and other Sns. In this attde the f. seems to be fused with the Sn complex from the st. more completely than in other attdes.

23/10/16.

*Expt 187: (A 2)* Alternation of three attdes as in *Expt 185* (class C).

The eg. attde is the easiest to maintain and attn to the f. the most difficult. The indifferent attde seems to me to be much the same as that in which one listens to music very intently without reference to the source from which it proceeds. With it there arises some C. of one's own body, especially respiration. This C. of respiration seems to be connected with the f. factor of the attentive C., since it always occurs when I tried to attend to f. as such, especially if it is very pleasurable. The eg. attde, i.e. attn to the st., brings with it a great deal of objective material such as cause, distance, direction, all which disappears in trying to attend to the f. and in the indifferent attde, so far as the effort at indifference is successful. In fact the attde of indifference is equivalent to the attn to the subjectivity of the expe.

25/10/16.

*Expt 188: (A 3)* Alternation of three attdes as above (class C).

I think the results are much the same as last time. The effect of the organ-pipe is less pl. than that of the tuning fork. It seemed to contain more elements of noise, although of course it is a richer tone. On attending to the st. in the eg. attde the Plre almost disappeared. Adopting the subjective attde, the attde of indifference, the Plre decidedly increased. On turning attn to the f. factor it diminished and changed and org. Sns appeared especially respiratory. This is very much what happened with the tuning fork but in that

case the expe was clearer in every way, the reference to the external cause, its direction and distance, was more decided. The f. was in a less degree fused with the aud. Sn. By the attde of indifference I mean one in which attn is not given chiefly either to the eg. or to the aff. factor of the expe. As the effect of this is to eliminate the objective conditions (such as causation, position and space, etc.) of the expe belonging to the eg. attde it seems to me to be better expressed by "subjective," than by "indifferent." It consists in taking the expe merely as *my own*. In this way the f. factor attains greater prominence and if we do not confine the word attn to focal C., it may be said that we attend to the f., the marginal awareness of it is clearer.

*Account of different attitudes.*

*Statement.*

By attn, as used during these expts, I always meant the attde of concentration upon some object. This attde tends to exclude everything except the object, e.g. if one attends to an expe as objective, say a Sn not merely as such, but as caused by a tuning fork, the tendency is, even for the f.t. to diminish, and the attempt to concentrate in a similar way upon the f.t. tends to exclude the Sn and therewith the f.t. disappears. I then become aware of something else, viz. org. Sns. The attde of indifference is one of wider C., as attn is not directed especially either to the Sn or to the f.t., but to the complex as a total expe. It may be said to involve attn to the f.t., but not an exclusive attn to it. Perhaps it would be well to recognize various extensions of the field of attn and to give them different names, such as "exclusive attn," "distributed attn" and in distributed attn one might even enumerate the elements over which the attn is distributed, but hitherto in these expts I generally understood by attn the exclusive kind, except when describing the indifferent attde when I was perhaps inconsistent in calling it attn as if in the sense in which I am accustomed to use the term. My attn in that attde was not one of indifference in the sense of relaxation, but it is relatively passive compared with the attde of eg. attn. Of course attn is never perfectly exclusive. Monoideism is never completely attained, but in the eg. attde there is an endeavour to get to it as near as possible. It must also be understood that in attn to an object the object may be complex in various ways and degrees and it may be necessary to keep a number of its properties and relations before the mind in order to subserve the ends of cgn. These properties and relations, however, are not attended to simly but seriatim.

13/11/16.

*Expt 189: F. and memory (class D).*

(1) I can recall an expt of some time ago in which I listened to a tuning fork and gave an introspective account. I find that I can reproduce the sound of the tuning-fork, with perhaps of 5 per cent. clearness or vividness. I am aware, however, that this image is not purely and., but partly a nascent singing of it. A part of the sound seems to be on top of my throat. The effect of this is faintly pleasurable. It is not merely a knowledge that I was pleased with the original tone.

(2) The expt in which my hand was stroked with the powder puff. I have no true reproduction of the tact. expe but merely a knowledge where my hand was and that it was stroked and corresponding with this expe I have a knowledge that it was agreeable, but no renewal of the specific Pte that was formerly attached to it, although the rememb. I. brance on the whole is pleasureable.

24/1/17.

Expt 190 (class D).

Q: *Do you like marmalade?*

A: *Yes, some* (a little hesitation).

There was a short interval during which I grasped the meaning. It was unexpectedly simple. Then I saw marmalade, it was not exactly in pots, but there was more than one lot and I hesitated to reply, because there were more kinds than one and I remembered that there were some kinds I don't like, but good marmalade is one of my favourite tastes. No gust. images. There were intellectual signs or substitutes of f.t., recollection

η13. of liking and disliking, but the only f.t. was in the surprise which I cannot say whether it was pl. or unpl.

Expt 191 (class D).

Q: *Do you like raspberry jam?*

A: *Yes* (hesitatingly).

Again I saw raspberry jam; not such a distinct representation as I had of the marmalade and I knew that I liked it, but answered with some hesitation because I remembered that it contains sometimes seeds, too many seeds, and that I dislike that property of it. The seeds were represented to me as tact. kinesthetic images in the mouth. I had no flavour of raspberry, though I have now a slight image of it. F.t.s were only represented as in

ι1. the former case, i.e. intellectually, except with the tact. kinesthetic images where there was a slight unpl. f.t.

Expt 192 (class D).

Q: *Which of the two do you like better?*

A: *Marmalade for a continuance, raspberry for a change.*

In answering I remembered my habits as regards these things, that I frequently take marmalade for breakfast and sometimes for tea, and that I take raspberry jam sometimes for tea, but never for breakfast, and that my reason for this is that marmalade does not pall on the taste as raspberry does. The answer was founded entirely upon the knowledge of my habits and not upon a present comparison of the flavour images. There was no prominent f.t., but a slight attitude of aversion to raspberry considered as a frequent article of diet.

30/1/17.

Expt 193 (class D).

Q: *Do you like plum jam?*

A: *Yes.*

There is hardly anything to report. There were no images. There was a slight surprise that there were none. The answer seemed to be a matter of course. There was no f.t.

η13. except that attached to the surprise which was very slightly unpl. There was some hesitation whether I should answer at once or wait for reasons to occur to me, but I thought the conditions of the expt called for an answer as soon as I was ready. The hesitation made the reply a little later than it might have been.

Expt 194 (class D).

Q: *Do you like blackberry jam?*

A: *Yes.*

This expt was still simple. There were no definite images but a faint indescribable visualisation of something that might represent blackberry jam. There was no surprise, no perceptible f.t., no hesitation. Immediately after answering, some associations with blackberry jam occurred to me; vague representation of occasions on which I had eaten it, but these had nothing to do with the answer. The answer is merely knowledge.

*Expt 195 (class D).*

Q: *Arrange the four jams in order of their preference.*

A: *First preference on ground of liking and habitual use: marmalade, plum jam, blackberry, raspberry jam. Second order refers to absolute liking for single use: blackberry, plum, marmalade, raspberry.*

I first perceived on attempting to arrange them that marmalade and blackberry were difficult to compare and then saw that the reason of this was that I liked blackberry better for single use, but could not possibly eat it daily as I do marmalade, and this made the question ambiguous. I then decided to give two lists to avoid this ambiguity and then proceeded to compare the members pairwise, under each head. During this comparison I had a good many gust. images, e.g. marmalade, blackberry and so on. These images were very much below Sn vividness, not more than 5 per cent. of that value, but I think they had some influence in determining the various judgments. There were very slight

1. pl. f.s accompanying them, there was also some very indefinite visualisation, but these had nothing to do with the judgment. It was with some hesitation that in the second list I placed blackberry above plum jam and in drawing up the first list there was some doubt whether for a continuance blackberry would be preferred to raspberry. The comparison seemed to be based partly on the gust. images and partly on very indefinite knowledge of former preferences. There was no comparison of the f.s.

### OBSERVER Y.

#### *Statement.*

I have no hard and fast opinions concerning either the coexistence or the fusion of two f.s. To my mind, neither has been adequately proved or disproved. But I feel disposed to incline towards the view that two f.s are never coexistent. On the question of fusion I have formed no opinion one way or the other.

My opinion concerning the coexistence of f.s is due mainly to the fact that I, as far as I am aware, have never experienced such coexistence. It is due, partly also, to the reading of results of experimentation on this subject by Orth, Alechsheff, etc.

20/10/16.

*Expt 1: T 1 (class A 1).*

56. F.t. distinctly pl., immediately following two vis. images came up, furrier's shop and expee of motion of a railway train.

*Expt 2: O 1 (class A 1).*

F.t. varied, first pl., then became distinctly unpl. St. apart from f.t. seemed to change. No images, no associations.

*Expt 3: A 1 (class A 1).*

Pl., reminded me of church bell, vis. image of Waltham Abbey.

*Expt 4: V 1 (class A 1).*

F.t. very pl. indeed. Succession of vis. images. Reckitt's blue, botanical gardens of my home.

*Expt 5: G 1 (class A 1).*

Pl., distinct tact. Sns from tongue, vis. image inside of a theatre. F.t. here seemed different to last, more bodily comfortable position.

*Expt 6: P 1 (class A 1).*

64. First rather pl. then unpl., as pressure increased slightly unpl. I could distinguish the Sn from the f.t. St. did not strike me as a prick at all, more a pressure.

*Expt 7: A 4 (class A 1)*

Very little f.t. Brought up vis. images in great numbers, also words arose. F.t. neutral.

*Expt 8: V 4 (class A 1).*

F.t. very very faint, slightly unpl.; vis. images arose, also memory image of slipping owing to having slipped once on stones of that col.

*Expt 9: O 4 (class A 1).*

δ 7. F.t. at first slightly pl. turning to intensely unpl. Images, there seemed to be kinesthetic images from eyes.

*Expt 10: T 4 (class A 1).*

F.t. slightly unpl., crowd of vis. images, there seemed to be nothing else in C. then.

*Expt 11: V 5 (class A 1).*

α 1. Very unpl. f.t., distinct viscerai Sns, vis. image which was unpl. too.

*Expt 12: A 5 (class A 1).*

α 3. Decidedly unpl. f.t. with decided viscerai Sns creeping up from the lower part upwards. These were more unpl. than the f.t. itself, they seemed to swamp the first f.t., vis. images also as usual.

*Expt 13: O 5 (class A 1).*

δ 6. Peculiar f.t. It seemed to alternate between pl. and unpl. Thought arose "some com-pound." Some vis. images. There seemed to be two distinct smells which alternated with the f.t.

*Expt 14: T 5 (class A 1).*

Slightly unpl. f.t. I seemed to distinguish two kinds of Sns, viz. the tact. Sn of the running of the sandpaper over the skin and the folding of the skin. It seemed this latter that carried the f.t. Vis. image of my hand.

*Expt 15: G 4 (class A 1).*

First Sn of cold which was distinctly pl. some time before gust. Sn arose which had a decidedly unpl. f.t. Usual vis. images.

*Expt 16: O 2 (class A 1).*

δ 6. λ 1. The same peculiar alternation of f.t.s. At first Sn was sweet and f.t. was pl., then odour changed and f.t. became unpl. Sns from frowning and impulse to turn head away. Usual vis. images.

*Expt 17: V 4 (class A 1).*

F.t. unpl. Vis. images came crowding in at once.

*Expt 18: T 2 (class A 1).*

δ 15. Very pl. which seemed to be enhanced by images aroused. I cannot distinguish a f.t. separately from the images, they were all pl.

*Expt 19: V 3 (class A 1).*

λ 1. Slightly pl. f.t., had a wish that st. would continue. Inevitable images.

*Expt 20: T 3 (class A 1).*

δ 15. St. seemed to be warm, f.t. distinctly pl., vis. images, all pleasing and f.t. of st. seemed to be enhanced by them.

*Expt 21: A 3 (class A 1).*

δ 15. F.t. decidedly pl., at first it was not quite so, but images arose and their f.t. enhanced the f.t. of Sn. Attde of annoyance for a very brief time which was unpl., which gave way before the other.

*Expt 22: O 3 (class A 1).*

δ7. F.t. very pl. at first but continuation of st. caused f.t. to decline. Images.

*Expt 23: G 3 (class A 1).*

Quite a succession of f.t.s, first Sn of cold which was pl, this was closely connected δ 6. with tact. Sn. Gust. first sharp which was slightly pl. followed by a period without taste. Then full gust. Sn which was unpl. and remained so to the end. Distinct impulse to spit. No images.

21/10/15.

*Expt 24: P 3 (class A 1).*

First, f.t. of pressure Sn (seemed to be pressure downwards) which was not unpl. As pressure increased it became more unpl. As the f.t. became markedly unpl. Sn of P. δ 1. arose. The unpl. f.t. preceded the P. Sn. I can analyse the unpl. f.t. from the pressure θ 4-. Sn, but not from the P. Sn. No images.

*Expt 25: O 6 (class A 1).*

δ7. Alternation of f.t. from slightly pl. to very unpl. Images of bottle, etc. No org. Sns.

*Expt 26: T 6 (class A 1).*

St. as a whole not an unpl. f.t., rather neutral, could discriminate two kinds of tact. Sns, one due to friction and the other due to folding. The former neutral and the latter slightly unpl. This folding happened three or four times and each time I was c. of holding the breath. Vis. images.

*Expt 27: P 2 (class A 1).*

I seemed to be able to distinguish three kinds of Sns: (1) tact. touch proper, changing into (2) pressure, (3) Sn of P. which I seemed to be able to localize in bone. Again had λ 1. change in f.t. from neutral to unpl. Distinct impulse to withdraw. Same difficulty as θ 4-. before, I cannot distinguish P. Sn from its f.t. One vis. image of drum-stick.

*Expt 28: G 2 (class A 1).*

Temperature Sns, then gust. Sn. The temperature Sn was cool and pl., gust. arose later and had also a pl. f.t. On moving my tongue I had Sns of smell, which I could localize in nose. F.t. continued pl. to the last when st. turned sickly with unpl. f.t. In middle there was oscillation between pl. and unpl.

*Expt 29: A 6 (class A 1).*

λ 1. F.t. very unpl. all through. Very marked visceral Sns, felt impulse to turn my head away. Seemed to identify noise with squeaking of parrot. Vis. image of parrot. I do not δ 11. think I can distinguish f.t. of visceral Sn from f.t. of aud.

*Expt 30: V 6 (class A 1).*

F.t. pl. Can't get anything else except vis. images, e.g. shop windows, etc.

*Expt 31: A 2 (class A 1).*

Sn was pl., slight visceral Sns, I seemed to feel vibration of tuning-fork in body. St. had a soothing effect. Usual vis. images.

*Expt 32: T 1 (d.e. <) (class A 11).*

First slightly pl., slightly tickling. Second still more pl., usual vis. images. Second Sn persevered longer than the first. No evidence that the f.t.s were present together. Could not attend to the two primary memory images together but alternately and so to the f.t.s.

22/10/15.

*Expt 33: O 1 (i.d. < ) (class A II).*

First: Sn slightly pl., sweet (associated). Second: the action of sniffing seemed to interfere. Sn was delayed and did not arise for a couple of seconds, f.t. at first pl. and then changed to unpl. I think I can analyse out two smells. I can't distinguish f.t. of first Sn and initial f.t. of second Sn. The later Unpls of second Sn seemed to swamp the first pl. f.t.s. Slight org. Sns. Vis. memory images.

*Expt 34: A 1 (i.d. < ) (class A II).*

η 4. No f.t. with first. Disappointment in a way at short d. which was unpl. The second δ 7. one pl. and the Pls increased from beginning to end. Seemed great especially at the last, when dying away. Slightly unpl. f.t. of first disappeared at once with first Sn. Slight Sn from tongue when touching the palate, seemed due to vibrations of tuning-fork. Vis. image of tongue.

*Expt 35: V 1 (i.d. < ) (class A II).*

First Sn was very pl., immediately called up vis. images of objects of that col., f.t. seemed to disappear with the second st., its f.t. was pl., but not nearly so much as first. Two Sns of blue from second st. due to varied illuminations. Strongly lighted part was pl. and shadowed part was more pl. I seemed to identify shaded part with first st. The two f.t.s were not together in C., rapid alternations following the direction of the attn. Vis. image.

3/11/15.

*Expt 36: G 1 (i.d. < ) (class A II).*

I can't distinguish any difference in f.t. of the two st. The f.t. in the second case is so strong as to overwhelm. This applies to simultaneousness of the two st. In the case of δ 1. snc. st.: In the first I can distinguish between the tact. and gust. Sns, the f.t. arrived later. In the second st. the Sn of contact and slight pricking Sns can be discriminated from the f.t. of the still existing first Sns. When the f.t. of the second st. arises the f.t. of the first seems to disappear altogether.

*Expt 37: P 1 (i.d. < ) (class A II).*

The f.t. of the first was at first pl. and continued so till nearly the end of st. when it became slightly unpl. The Sn changed from pressure to P. when the f.t. changed. The θ 4. f.t. of P. seems hardly distinguishable from the Sn itself. In the second st. the first f.t. was pl. pressure and changed very rapidly to unpl., and change in f.t. seems to coincide, with arrival of P. Sn. I think I can here distinguish the f.t. from the Sn of P. itself. Strong impulse to pull my hand away.

*Expt 38: A 4 (i.d. < ) (class A II).*

δ 7. The f.t. of first st. was at first slightly pl. and then changed to unpl. The change to δ 15. Unpls was brought about by vis. imagery (a child crying). In the second st. the f.t. was α 3. pl. I had distinct visceral Sns, they seemed to come towards end of d. of st. and they had an unpl. i.t. I can't state whether the f.t. of Sn and f.t. of visceral Sns were sim. or κ 1. not. They seemed to follow the direction of the attn.

*Expt 39: V 4 (i.d. < ) (class A II).*

The f.t. of first unpl. (several images in quick succession). The second was unpl. but less so than first. It too was accompanied by images.

*Expt 40: Stroking palm of hand (class G).*

At first I could distinguish the Sn of pressure only, it was pl. rather than unpl. Then I had distinct Sns of temperature quite distinct from tact. Sns, f.t. was pl., in fact slightly

more pl. when I became c. of the temperature Sns. Then the warmth Sns were succeeded by quite unpl. tickling Sns which remained after the st. was withdrawn. I don't think I can distinguish the f.t.s from Sn in this case.

*Expt 41: O 4 (i.d. < ) (class A II).*

First st. was at first slightly pl. changing rapidly to unpl. I seemed to be able to distinguish two odours. No images. The second was very unpl., and had very distinct a 3. δ 3? visceral Sns which were also unpl. Vis. images. I can't make a definite statement whether κ 1. the two f.t.s co-exist or not. The f.t.s follow the attn to the Sns.

*Expt 42: T 4 (i.d.e. > ) (class A II).*

I can distinguish two sets of Sns in first st. The slight Sn of friction (i.e. tact. Sn) and more intense Sns arising from the folding of the skin. The former had a pl. f.t. and the δ 4 - . latter an unpl. f.t. I can't find any co-existence, there was alternation. I can't say whether this alternation followed the direction of the attn. In the second st. I had only tact. Sns, none from any folding of skin. The f.t. was pl. After withdrawal I had Sn of warmth which had also a pl. f.t.

*Expt 43: V 5 (i.d. < ) (class A II).*

1. F.t. of first very unpl., called up very vivid vis. image which also had an unpl. f.t.  
 2. Here again I can't distinguish the one f.t. from the other. The f.t. of second was unpl., but less so than the first. It was accompanied by a visceral image which had no f.t. When κ 1. the attn was directed to the image the unpl. f.t. of Sn disappeared.

*Expt 44: A 5 (i.d. > ) (class A II).*

a 3. The first f.t. very unpl. with very marked visceral Sn from the legs. The visceral Sns δ 3 - . had a markedly unpl. f.t. also. I can't find both f.t.s co-existent in C. The f.t. of the second was unpl., less so than first, also accompanied by visceral Sns localized particularly in the chest and they had an unpl. f.t. I can't discriminate between the two f.t.s, they follow κ 1. the direction of the attn.

*Expt 45: O 5 (i.d. < ) (class A II).*

I seemed to be able to distinguish two off. Sns in first st. The first is a fragrant smell with a distinctly pl. f.t. The change that gives place to the second real Sn of the stuff has a very unpl. f.t. The usual vis. images. In the second st. the f.t. was very unpl., very a 3. strong visceral Sns, stomach, throat and particularly from the head. The f.t.s of these κ 1. accompanying Sns were all very unpl. I felt a strong impulse to turn the head away.

The visceral Sns continued after st. was withdrawn. I can't get the two f.t.s together, I δ 3 - . δ 11. can't distinguish them.

*Expt 46: T 5 (i.d.e. < ) (class A II).*

F.t. of first was slightly pl. accompanied by slight visceral Sns whose f.t. I can't distinguish. In the second I can distinguish two kinds of tact. Sns, viz. friction and folding κ 1. of skin. F.t.s of both were unpl. Impulse to pull hand away.

*Expt 47: G 4 (1 and 2 drops) (class A II).*

I can distinguish three sets of Sns in first st., tact., temperature, and gust. The tact. and temperature are pl. which continue for some time until the gust. Sn slowly arises. δ 5 & 3 The f.t. very unpl. It seems to drive the other f.t.s out of C. altogether. Distinct visceral Sns, also of unpl. f.t. In the second st. I again had the pl. f.t. due to tact. and temperature Sns followed by gust. Sns of unpl. f.t. Latent period of gust. Sn was much shorter. Again δ 11. visceral Sns more distinct than before and more unpl. The f.t. of the tact. and temperature Sn is one, I can't say how much is due to the one or the other.

## Expt 48: O 2 (i.d. &lt;) (class A II).

As before I get two different Sns and two different f.t.s. The first st.: the first Sn weak and pl., the second is much stronger and unpl. With the arising of second Sn and its f.t. the first disappears. Usual vis. images. In the second st., which was very unpl., I did not

a 3. get the preliminary first Sn as in first st. The visceral Sns very marked and very unpl.

4/11/15.

## Expt 49: V 4 (i.d. &lt;) (class A II).

First st. unpl. As soon as st. was given there were several vanishing images all connected with st. Second st. also unpl., but in a less degree, it seemed to be a different col. Here again I had a vis. image.

## Expt 50: O 4 (i.d. &lt;) (class A II).

I am able to distinguish two Sns in first st., a slightly fragrant odour which was pleasantly toned, then the real odour followed quickly afterwards, decidedly unpl. Usual a 3. vis. images. The second st. was very unpl. Strongly marked visceral Sns and Sns from λ 1. head. Impulse to withdraw head. Visceral Sns also unpleasantly toned. I cannot separate δ 11. f.t. of visceral Sns from f.t. of Sn itself. (In first st. the two Sns followed one another.)

## Expt 51: T 4 (i.d.e. &gt;) (class A II).

In the first st. I can distinguish two sets of Sns, the tact. Sn of friction and that arising from folding of skin. The movement of object across hand seemed to be in jerks. The folding was unpl. and the f.t. of friction in itself was pl., but the two were never together in C. The second st.: I find two sets of Sns and two f.t.s also. Sn from friction was pl. When st. was withdrawn I had a tickling Sn which was very unpl. Vis. images. Sns were not sim.

## Expt 52: V 3 (i.d. &lt;) (class A II).

First st. was pleasantly toned. I can't find anything else in C. except accompanying vis. images. The second st. was slightly unpl., again I had an image. The images follow each other so quickly that I can't say whether they had any f.t. In the second st. the image was constant but I can't distinguish its f.t. from that of st.

## Expt 53: T 3 (i.d.e. &lt;) (class A II).

F.t. of first unpl. I can distinguish tact. Sn from the tickling Sn produced. I can't distinguish any f.t. to the tact. Sns. The tickling Sn was very unpl. Second st.: First instant of application caused a tickling Sn which was only slightly unpl., that gave way δ 4 - to Sn arising from friction on skin and this was pl. The two f.t.s were not, as far as I can see, together in C. Usual vis. images both times.

## Expt 54: A 3 (i.d. &lt;) (class A II).

a 3. The first st. was slightly pl. When it was half over I was c. of Sns from skin of the chest δ 5. which were decidedly unpl. This seemed to tone the whole expe unpleasantly and I could not analyze out the first f.t. at all. The second st. was pleasantly toned. Very vivid vis. δ 11. image. The image was pleasantly toned but I can't discriminate between the two f.t.s.

8/11/15.

## Expt 55: O 3 (i.d. &lt;) (class A II).

The first st. was pl. I seemed to be able to distinguish two odours in it, both seemed to be pleasantly toned. With first I had vis. image. The second st. at first was distinctly

δ 7 & 20. pl., then it suddenly turned to unpl. The change seems to be sudden, *there seems to be no a 3. transition stage or neutral point*. The latter part of second Sn was accompanied by visceral Sns especially from the stomach, which were strongly unpl. As far as I can judge the two δ 4 - κ 1. f.t.s did not co-exist but alternated, they followed the direction of the attn. Slight vis. image.

*Expt 56: G 3 (1 and 2 drops) (class A II).*

The first st.: I could distinguish three sets of Sns which were in the following order. First tact. followed by temperature and after a long interval of two or three seconds I got the first gust. Sn. Accompanying the first gust. Sn I had another tact. Sn different from the first tact. Sn, the tongue seemed to be smooth. After a still longer interval of 4-5 seconds, the true gust. Sn arose accompanied by pricking Sns of tongue and palate. All the different sets of Sns had f.t. The initial tact. temperature and gust. were all three  $\delta 4-$  pl. After the second gust. Sn the f.t. changed to slightly unpl. I can't find that any two f.t.s were together in C., there was alternation. The second st.: I can also here distinguish the tact. temperature and gust. Sns. There seemed to be only one gust. Sn which was very unpl. The gust. Sn arose more quickly accompanied by pricking and burning Sns of the tongue and palate, all unpl. I can't find that any two were together in C.

*Expt 57: P 3 (e.i.d. <) (class A II).*

$\theta 5.$  In the first st. I could distinguish the pressure from P. Sn. The pressure Sn seemed to  $\lambda 1.$  be neutral. The P. Sn arose later, which was strongly unpl., accompanied by contraction of thigh muscles. No vis. image. The second Sn: I got no P. Sns at all, only pressure which was slightly pl. Here again I had a chance of comparing two f.t.s, i.e. the unpl. f.t. of first st.  $\delta 4-$  had not yet died away and the two f.t.s alternated. I could not grasp them together in C.

*Expt 58: O 6 (i.d. <) (class A II).*

The first st. was unpl. accompanied by very distinct vis. images. The second st. was  $\alpha 3.$  very unpl. accompanied by strongly marked visceral Sns from throat. I had an impulse  $\lambda 1.$  to turn my head away and a distinct vis. image.

*Expt 59: T 6 (e.i.d. >) (class A II).*

The first Sns: the tact. Sns of friction of material on skin were unpl. and the Unpls increased in i. when the skin became folded. I also had a slight P. Sn from knuckle joint,  $\delta 3-$  also unpl. No co-existence and no alternation of f.t.s, they seemed to succeed one another. In the second st. the tact. Sns were distinctly pl. Very distinct vis. image of a cat. No f.t. connected with vis. image.

8/11/15.

*Expt 60: P 2 (i.d. <) (class A II).*

The first st.: I could distinguish the touch from pressure Sn, they were both neutral.  $\theta 5.$  Vis. image. The second st.: I can easily distinguish the pressure Sn from the P. Sn. The pressure Sn was slightly pl. which turned to unpl. when the P. Sn arose. The two f.t.s  $\delta 4-$   $\lambda 1.$  alternated rapidly, they did not co-exist. Impulse to pull hand away.

*Expt 61: G 2 (1 and 2 drops) (class A II).*

The first st. was pl. turning later to unpl. In the second st. the Sn was first pl. also and turned also to unpl. and was then more unpl. than in the first st. First st.: the tact. and temperature Sns were pl. and the initial gust. Sn was pl. also, then when the gust.  $\delta 4-$  Sn proper arose it rapidly became unpl. No alternation of f.t. and no co-existence either. In the second st. as before the tact. and temperature Sns were pl. The gust. Sn took about 15 seconds to arise. It was initially pl. and rapidly changed to unpl. Vis. image. No  $\delta 20.$  co-existence and no alternation, they simply succeeded one another.

*Expt 62: A 6 (i.d. <) (class A II).*

$\alpha 3.$  First st.: f.t. unpl. Second very unpl. The first st.: I was c. of slight visceral Sns and  $\delta 3?$  Sns from the teeth, both were unpl. The two f.t.s did not alternate and did not co-exist and yet seemed to be sim., I am not quite sure whether they did not alternate after all, I am not clear about this. Second st.: strongly marked visceral Sns and Sns from teeth and jaws. Both, Sn of st. and visceral Sns, were strongly unpl. There was alternation  $\lambda 1.$  here, following direction of attn.

## Expt 63: V 6 (i.d. &lt;) (class A II).

First slightly unpl., second very unpl. The first st. accompanied by vis. images. I can't distinguish any f.t. of images. Second st. very unpl., slight visceral Sns. I can't find the visceral Sns to be toned, they were too vague. Distinct vis. image, unpl. f.t.s succeeded one another.

10/11/15.

## Expt 64: T 1 and 2 (sim.) (class A III).

No. 1 pl., No. 2 slightly pl. at first changing to unpl. From No. 1 I seemed to get Sns of warmth as well as tact. From No. 2 at first only tact. Sns, pl. then later it changed to  $\delta 4 -$ , a tickling which was unpl. I tried to attend to both f.t.s at once, but failed. The f.t.s  $\epsilon 2, \delta 9$ , alternated as the attn alternated. I cannot distinguish any difference in quality of f.t.,  $\delta 16$ , only difference of i. In both cases the f.t.s were definitely localized in the back of the hand generally.

## Expt 65: O 1 and 2 (suc.) (class A III).

No. 1 pl. No. 2 unpl. With No. 1 I had a vis. image which had no f.t. In No. 1 the olf. Sn was faint and the f.t. rather vague. It seemed to disappear completely when No. 2  $\alpha 3$ , was applied. The second was very unpl. accompanied by well-marked visceral Sns and  $\lambda 1$ . Sns coming from the muscles of the chest. I can't find any f.t. to the visceral and muscular Sns. Second Sn and its f.t. seemed to dwarf anything else in C. Impulse to go backwards.

17/11/15.

## Expt 66: A 1 and 2 (suc.) (class A III).

No. 1 was pl. No. 2 more pl. No. 1 did not seem a pure t., I could distinguish at least  $\delta 16 \pm$ , two tones. It was accompanied by org. Sns. I seemed to be able to localize the f.s definitely  $\alpha 3$ , somewhere in the head. The org. Sns were unpl. and the two f.t.s alternated. No. 2 was more pl.; seemed pure. The localization did not seem so definite as with No. 1. The f.t. seemed to be diffused over the whole body.

## Expt 67: V 1 and 2 (suc.) (class A III).

No. 1 pl. No. 2 more pl. F.t. of No. 1 was very vague. I seemed to identify it with the blue of the sky, although I had no vis. images. The word "Reckitts" (aud. image) came up with a vis. image of the poster-advertisement. I cannot distinguish any f.t. to the images. I recognized No. 1 as the col. I had picked out as most pl. No. 2 was distinctly more pl. than one. I was seeking for a reason and I came to the conclusion that the illumination was the cause. Several images. I tried to localize the f.t.s but could not do so.

## Expt 68: T 2 and 6 (sim.) (class A III).

No. 2 was slightly pl., No. 6 unpl. I failed to attend to both Sns together. The attn  $\delta 9$ , rapidly oscillated and the f.t.s with it. When not voluntarily attending to either, No. 6 held the attn more. In No. 6 I could distinguish two Sns as before. The f.t. was well marked  $\delta 16$ , with each of these. I could localize the f.t.s, No. 6 was more definitely localizable than No. 2.

## Expt 69: O 6 and 2 (suc.) (class A III).

No. 6 very unpl., No. 2 unpl., not quite so bad as No. 6. No. 6 seemed to be a compound  $\alpha 3$  odour, No. 2 seemed to be pure. No. 6 had strongly marked visceral Sns which were very  $\delta 16$ , unpl. No. 2 had no visceral Sns. Both f.t.s were localized somewhere in the throat very definitely. No images.

## Expt 70: A 2 and 6 (sim.) (class A III).

$\delta 9$ . No. 2 pl., No. 6 unpl. I could not attend to both Sns together. The f.t.s oscillated with  $\delta 4 -$ , the attn. The f.t.s were neither together in C. No. 6 was accompanied by slight unpl.  $\alpha 3, \delta 16 -$ , visceral Sns. I failed to localize either of the f.t.s of the stimuli.

24/11/15.

*Expt 71: V 2 and 6 (suc.) (class A III).*

No. 2 pl., No. 6 very unpl. I recognized No. 2 as having been picked out as pl. It was  
 β 4. accompanied by several vague vis. images whose f.t. I cannot distinguish. The transition  
 from No. 2 to No. 6 seemed to be more unpl. than No. 6 itself. The transition was accom-  
 δ 7. α 3. panied by visceral Sns which were also unpl. No. 6 seemed to become slightly less unpl.  
 δ 16 -. than when first presented. It was accompanied by an image which was unpl. The f.t.s  
 δ 16 -. alternated. I could not localize the f.t.s.

*Expt 72: T 3 and 5 (sim.) (class A III).*

No. 3 was pl., No. 5 was slightly pl., occasionally, though I got a P. Sn from No. 5  
 which was very unpl. I quite failed to hold both in C. together, either the two Sns or the  
 δ 16 ±. two f.t.s. When attending to No. 3, No. 5 disappeared, but the P. Sn caused No. 3 to  
 δ 16. disappear and No. 5 to reappear. I could definitely localize both Sns and both f.t.s some-  
 where in the hand.

*Expt 73: O 5 and 3 (suc.) (class A III).*

No. 5 the initial Su was pl. changing to very unpl. No. 3 the initial pl. changing to  
 δ 16 ±. slightly unpl. The initial Sns of both stimuli seemed to be the same. I vaguely localized  
 the f.t. of No. 5 in the head, but I failed to localize that of No. 3.

*Expt 74: A 3 and 5 (sim.) (class A III).*

No. 3 pl., No. 5 unpl. I tried to attend to both together and I found I could only do  
 so by concentrating the attn on No. 3, then No. 5 seemed to force itself into C. When  
 directly attending to No. 5 No. 3 disappeared. I was c. of all my visceral Sns, but I can't  
 δ 4 -. say whether they were pl. or unpl. When I attended to the two Sns together by directly  
 attending to No. 3 I could distinguish the f.t. of No. 3, but not that of No. 5. It was only  
 by directly attending to No. 5 that I became aware of its f.t.

*Expt 75: G 1 and 2 (sim.) (class A III).*

Both pl. No. 2 arose more quickly than No. 1. I could distinguish the tact. and  
 temperature Sns from the gust. Sn of No. 2. No. 2 seemed to be a combination of three  
 δ 11. gust. Sns, viz. an acid taste, then a sweet taste and then the raspberry flavour. All these  
 were pl. and I cannot distinguish their f.t.s one from another. In No. 1 I could not distinguish  
 any temperature Sn and the chocolate taste was only momentary. The two Sns then fused.  
 α 4. F.t. of all the Sns was pl. but I cannot distinguish one from the other. I could distinctly  
 localize the Pires as in the mouth.

*Expt 76: T 1 and 6 (sim.) (class A III).*

No. 1 pl. In No. 6 the tact. Sns were slightly pl. but intermixed with P. Sns, which  
 were very unpl. I again failed to attend to both Sns at once. Even when attending to  
 No. 1 the P. Sn would force itself on C. and No. 1 would disappear. I had a very vivid  
 δ 16. image of st. No. 1, but no f.t. attached to it. I could localize all f.t.s somewhere in the  
 hand.

*Expt 77: A 1 and 6 (sim.) (class A III).*

No. 1 pl., No. 6 at first slightly pl. I identified it with the call of a bird, then it became  
 very unpl. and was accompanied by visceral Sns, which were unpl., it seemed to have  
 more force than No. 1. When the attn was directed on No. 1, No. 6 would drive it right  
 δ 4 -. out of C. I seemed to have both Sns in C. occasionally when directly attending to No. 1,  
 Image of st. No. 6.

*Expt 78: O 1 and 6 (suc.) (class A III).*

In No. 1 I could distinguish two Sns, one of them was pl., the other slightly unpl.,  
 59 the f.t.s alternating as the Sns alternated. No. 6 was very unpl. and immediately drove  
 63 the other previous Sn from C. It was accompanied by strongly marked visceral Sns  
 1 which were strongly unpl. and by an impulse to stand back. The f.t. of No. 6 and of the  
 visceral Sns alternated. The unpl. f.t.s due to No. 6 and respectively to the visceral Sns  
 caused by it did not form one f.t. but they alternated.

1/12/15.

*Expt 79: T 2 and 3 (sim.) (class A III).*

Both pl., No. 2 slightly more than No. 3. Most of the time the Sns alternated but on  
 two or three occasions I got the two Sns simly, but I could not focus the attn on both  
 together, one was focal the other marginal. When focal I could discriminate the f.t.  
 easily, but when marginal I could not distinguish the quality beyond it being tact., or  
 3- the f.t. of the Sn. I did not succeed in getting the two f.t.s together in C. I could localize  
 16. the f.t.s definitely in the back of the hands—vis. images.

15/12/15.

*Expt 80: T 1 and 3 (sim.) (class A III).*

Both Sns pl. No. 1 slightly more pl. than No. 3. I could not get both Sns in the focus  
 of C., but they were both in C. to this extent, that when one was focal and could be described,  
 the other was marginal, indefinite and vague, not so well localized. In such cases I could  
 3- not distinguish the f.t. of the Sn that was marginal. The f.t. of the Sn when it was focal  
 16. was localizable.

*Expt 81: T 1 and 3 (sim.), expt repeated with instruction “to distribute the attn between  
 both” (class E).*

I found it extremely difficult to attend equally to the two Sns, first one would get the  
 chief part of the attn and then the other one would, there was a rapid alternation. Once  
 or twice I got the attn evenly distributed over the two but only momentarily and as far  
 as I can judge they were both vague and I could not distinguish any f.t.s at all.

*Expt 82: G 1 and 4 (sim.) (class A III).*

No. 1 pl., No. 4 very unpl., both Sns seemed very intense and were very definitely  
 localized. I could attend to both Sns simly. The f.t.s were more definite than usual and  
 16. more easily detachable from the Sn. The f.t.s also were definitely localized and were present  
 4. together for several seconds. I seemed to be able to attend to the f.t. without any effort  
 up to a certain point, then No. 4 seemed to predominate and then I found I could not  
 distribute the attn to both equally nor could I attend then for any time to the f.t. of No. 1.  
 The impulse to swallow came up frequently.

*Expt 83: P 1 and 2 (sim.) (class A III).*

No. 1 very unpl., No. 2 not so unpl. No. 1: the P. Sn was present the whole time and  
 5. I could only at intervals detach the P. Sn from the tact. Sn. In No. 2 the P. Sn was not  
 present the whole time and I could more easily distinguish it from the pressure Sn. The  
 two P. Sns were not in C. together as far as I can judge, that belonging to No. 1 seemed to  
 4. swamp that belonging to No. 2. In No. 1 I do not think I succeeded in discriminating  
 the P. Sn from its f.t. In No. 2 this was more easy. With No. 1 I had constant impulses  
 1. to withdraw the hand.

20/12/15.

*Expt 84: P 1 and 2 (sim.) (class A III).*

No. 1 unpl. and No. 2, if anything, it was slightly pl. I found I could attend to the two  
 Sns simly if I attended to Sn No. 2. If I tried to distribute the attn evenly over the two,

No. 1 became predominant and No. 2 disappeared. Only at the beginning before the P.  $\theta$  5. Sn became too intense could I discriminate the pressure Sn from the P. Sn in No. 1. With  $\theta$  4. No. 2 I had no P. Sn and only momentarily could I distinguish any f.t. In No. 1 I failed to discriminate between the P. Sn and its f.t., they seemed to be so bound up together.  $\lambda$  1. With No. 1 there were impulses to pull the hand away.

*Expt 85: P 1 (applied with gradually < force) (class G).*

At first there was a pressure Sn with a slight pl. f.t. As the pressure increased the f.t. became unpl., but it was not a P. Sn. Then as the pressure increased still more there arose suddenly the P. Sn which was then the chief thing in C., and I could distinguish no pressure  $\theta$  3. Sns. I can say from this that the P. Sn had a definite modality of its own quite distinct from an unpl. pressure Sn.

22/12/15.

*Expt 86: P 1 and 2 (sim.) (class A III).*

Both unpl. I can hardly say which was more so. Sometimes it was No. 1, sometimes No. 2. I was not able to attend to both Sns together except for a very short time. In No. 1 I could not distinguish any tact. Sn at all, nor could I separate the Unpls from the P. Sn itself. With No. 2 I got a tact. Sn before the P. Sn was aroused. After the P. Sn  $\theta$  5. was aroused I could still distinguish the tact. element from the P. element. The P. Sn No. 2 did not seem the same as that of No. 1.

*Expt 87: T 5 and 6 (sim.) (class A III).*

Both Sns were pl. At first No. 5 was the more pl. and afterwards No. 6 became more  $\delta$  3. pl. As far as I can judge the added Pl. of No. 6 was due to a tingling Sn set up. I could attend to both Sns simly, and also, but with greater difficulty, to their f.t.s. There was no fusing. I cannot analyze out the f.t. of the tingling Sn, this was too closely bound up  $\delta$  16. with the f.t. of the Sn from the glasspaper. I could localize the f.t.s fairly definitely with the Sns.

*Expt 88: O 5 and 1 (suc.) (class A III).*

$\delta$  16-. No. 5 very unpl. No. 1 was pl. and changed to slightly unpl. I failed to localize either of the f.t.s. With No. 5 I felt the usual impulse to turn the head away. Also had a faint  $\delta$  4-.  $\delta$  7. vis. image. No. 1 seemed decidedly pl. after No. 5, but the Pls died away and at last it was slightly unpl.

*Expt 89: A 1 and 5 (sim.) (class A III).*

No. 1 pl., No. 5 very unpl. I found I could attend to both Sns simly by attending to No. 1. If I tried to distribute the attn over both, No. 1 disappeared. I could distinguish  $\delta$  4-. the f.t.s from the Sns themselves, but failed to attend to both f.t.s together. I got oscillations of the f.t.s. I found I could hold both Sns and one f.t. together in c., but could not get the other f.t.

*Expt 90: V 1 and 5 (suc.) (class A III).*

$\delta$  16-. No. 1 very pl., and very vivid vis. image of a garden scene. I failed to localize the f.t. No. 5 was very unpl. I also had a vivid vis. image which was unpleasantly toned and a $\epsilon$  3.  $\delta$  11. accompanied by org. Sns, also unpl., but I cannot distinguish the f.t.s from one another.

19/1/16.

*Expt 91: T 1 and 4 (sim.) (class A III).*

Both stimuli were pl. No. 1 was the more pl. I found I could attend to the Sns from the two hands simly, this was especially easy when attending directly to No. 4. I did not  $\delta$  3. succeed in attending to the two f.t.s simly except when the attn was directed upon the

δ 16. f.t. of No. 4 and then only momentarily. The f.t.s were all definitely localizable. I cannot  
 ε 2. find any difference in the f.s., yet they were distinguishable, but I cannot say how they  
 were distinguished. There was no fusion. Possibly the f.t.s were distinguishable owing  
 to the difference in i. and/or local sign.

*Expt 92: G 3 and 4 (sim.) (class A III).*

Both Sns were unpl., the bitter more unpl. First I had a tact. Sn which, as far as I can judge, had no f.t. Then a Sn of cold which was slightly pl. This was almost immediately followed by the acid taste Sn with its unpl. f.t. I could still distinguish the temperature Sns, but not its f.t. The bitter taste did not arise for some time and was then very unpl. and immediately the acid taste disappeared. The two gust. Sns were never sim., as far as I can judge. Strong impulses to swallow which were inhibited.

*Expt 93: T 2 and 5 (sim.) (class A III).*

No. 5 was pl. and No. 2 was more pl. I usually attended to both Sns simly. With  
 δ 3. No. 5 I had occasionally P. Sns just for a moment which were unpl., but I can't detach  
 the f.t. from the Sn itself. I could attend to the f.t. of the two tact. Sns very easily simly,  
 but not for any length of time, after what seemed a second or two there was oscillation  
 δ 16. from one to the other. As before the f.t.s were localizable.

*Expt 94: O 5 and 2 (suc.) (class A III).*

No. 5 at first pl. and then very unpl. No. 2 was pl. and then changed to unpl. With  
 λ 1. No. 5 there were strongly marked impulses to withdraw the head. With No. 2 they were  
 λ 3. not so marked. In comparing the f.t.s afterwards I seemed to judge their Unpls by the  
 strength of these impulses. Both were accompanied by very vague visceral Sns which  
 seemed to have no f.t. I seemed to be able to localize the Sns, but not the f.t.s.

*Expt 95: A 2 and 5 (sim.) (class A III).*

No. 2 pl. and No. 5 unpl. At first I could not attend to both Sns simly, although  
 trying as hard as I could; there was rapid oscillation from one to the other. Afterwards  
 δ 4. by adopting what seemed to me a more passive attde, I succeeded fairly easily and then  
 δ 16. I found I could attend to the f.t.s simly, but could not localize them. I had almost the  
 whole time a very clear vis. image of the objects making the sounds.

*Expt 96: V 2 and 5 (suc.) (class A III).*

No. 2 was pl., No. 5 very unpl. I could easily detach the f.t. from No. 2, but I failed  
 δ 16. to localize it. With No. 2 I had two fairly vivid images. No. 5 was accompanied by unpl.  
 α 3. δ 11. visceral Sns. I am not able to distinguish the Unpls of the col. from the Unpls of the vis-  
 ceral Sns. With No. 5 I had a very vivid vis. image. The same image occurs whenever I  
 δ 11. ε 1. see this col. The image itself had an unpl. f.t., but I cannot distinguish it from the f.t.  
 of the col.

20/1/16.

*Expt 97: T 3 and 6 (sim.) (class A III).*

No. 3 was pl., No. 6 was unpl. With No. 6 I frequently got P. Sns. I found I could  
 not attend to both Sns simly unless I directly attended to No. 3. I could distinguish and  
 δ 4. could attend simly to both f.t.s but I can distinguish no f.t. to the purely tact. Sns of  
 δ 16. st. 6. The f.t.s were localizable.

*Expt 98: O 3 and 6 (suc.) (class A III).*

δ 7. No. 3 was at first pl. and then changed to unpl. No. 6 was very unpl. Neither of the  
 λ 1. odours seemed to be pure, all seemed to be mixtures of several odours. I had very strong  
 impulse to movement with each st., particularly with No. 6. No visceral Sns.

*Expt 99: A 3 and 6 (sim.) (class A III).*

No. 3 was slightly pl. No. 6 was unpl. I do not think I succeeded in attending to both Sns simly. I certainly did not attend to both f.t.s simly. Even when I tried to attend to No. 3 and its f.t. No. 6 forced itself into C. and the whole expec became unpl.

*Expt 100: V 3 and 6 (sue.) (class A III).*

δ 16 - . No. 3 slightly pl. No. 6 unpl. Both st. called up fairly vivid images. I cannot say whether the images had a f.t. of their own. I failed to loelalize either f.t.

*Expt 101: O 1 and 4 (sue.) (class A III).*

δ 7. No. 1 pl. at first, rapidly changing to unpl. No. 4 was very unpl., but seemed to be λ 1. a purer odour than No. 1. Both st. were accompanied by impulses to movement, particu- δ 16 - . larly No. 4. Neither f.t. was localized. I think that I judged No. 4 more unpl. than No. 1 λ 3. because of its more strongly marked impulses to movements. No images, no visceal Sns.

*Expt 102: A 1 and 4 (sue.) (class A III).*

δ 6. No. 1 was pl., No. 4 slightly unpl. In No. 1 the Pls seemed to increase as the sound got fainter. With No. 4 I had a very vivid image which, as far as I can judge, had no f.t. δ 16 - . I could not localize either f.t.

*Expt 103: V 1 and 4 (sue.) (class A III).*

No. 1 was very pl., No. 4 was slightly unpl. With No. 1 I had two very vivid images whose f.t.s, if any, I cannot distinguish. With No. 4 I also had an image, but not so vivid. Neither f.t. was localized. The f.t. of No. 1 arose before the images and when the images arose the total f.t. of the expec did not seem to alter.

*Expt 104: G 2 and 3 (sim.) (class A III).*

No. 2 was pl. and No. 3 unpl. I was first c. of the Sns of cold, but before their f.t. arose. Sns from No. 2 arose with a very pl. f.t. Some few seconds afterwards I got a Sn from No. 3 and then only for a moment. The f.t. of No. 3 arose simly with the Sn. Then the Sn of No. 3 disappeared and I had No. 2 taste again. These Sns remained for some time, then the Sn of No. 3 reappeared but only for an instant. Both Sns were not in C. together. δ 16 ± . The f.t. of No. 2 was fairly well localized, but f.t. of No. 3 was not localized. No images, no visceal Sns.

*Expt 105: P 1 and 3 (sim.) (class A III).*

No. 3 was unpl. No. 1 sometimes more, sometimes less unpl. With No. 1 I had strongly λ 1. marked impulses to withdraw the hand but not with No. 3. In either expecs I cannot distinguish the P. Sn from the tact. Sn. With arising of the P. Sn the tact. Sn seemed to disappear. I only succeeded in attending to both P. Sns when directly attending to that arising from No. 3. If I attended to No. 1 or tried to distribute the attn, the P. Sn of No. 3 disappeared. Connected with No. 1 I had a fleeting image of my right hand. The P. Sns were quite distinct from one another and seemed to be different in quality as well as in degree. I was unable to distinguish the Unpls from the P. Sn itself. I did not succeed in getting the f.t. apart from the Sn.

*Expt 106: Special. P 1: gradually < (class G).*

At first contact Sn and then Sns of pressure, neither had any f.t. They seemed to me quite neutral. Then simly with the arising of the P. Sn came the unpl. f.t. and the P. and the Unpls increased together, but I cannot distinguish the one from the other. I could not say that the pressure Sn is of a different modality to the contact Sn, but the P. Sn seems certainly of a different modality to either, because at the moment the P. Sn arose the δ 3. P. Sn and the pressure were together in C., but not afterwards, only at that moment. δ 5. The P. Sn does certainly not appear to me to be a pressure Sn of intense Unpre. The P. Sn arises suddenly and at once attains its maximum i., afterwards > a little.

21/1/16.

*Expt 107: Special. P 2: gradually < (class G).*

At first the tact. Sn appeared, immediately followed by a Sn of warmth. I cannot say at any point that the tact. Sn changed to a pressure Sn. The two seemed to be of the same modality only differing in i. Later on the pressure became distinctly unpl., but not painful. The temperature Sn had by this time completely disappeared. The P. Sn 8.5. arose suddenly and the moment it appeared I could distinguish it from the pressure Sn 8.4 - . but it immediately attained a considerable i. and after that I was not c. of any pressure Sn. The P. Sn was very unpl., but I cannot separate the Unpls from the P. Sn itself.

*Expt 108: T 4 and 5 (sim.) (class A III).*

No. 4 slightly pl. No. 5 scarcely had any f.t., occasionally it seemed slightly pl. I easily attended to both Sns simly. I had a fairly vivid image of the sandpaper rubbing along my hand, but the f.t. of No. 5 was so slight that I cannot say whether I attended to the f.t.s simly or not.

*Expt 109: O 5 and 4 (sue.) (class A III).*

δ 7. No. 5 at first was pl., changed afterwards to unpl. No. 4 was very unpl. and seemed a λ 1. more simple odour than No. 5. With both I had impulses to withdraw the head, these were particularly strong with No. 4. With No. 4 there was also a vivid momentary image δ 16 - . of the bottle. I could not localize either f.t.

25/1/16.

*Expt 110: A 4 and 5 (sim.) (class A III).*

δ 4. No. 4 pl., No. 5 slightly unpl. I could easily attend to both Sns simly and to the f.t.s. λ 1. No fusion of the f.t.s. Vis. image of the Galton whistle, c. of vague visceral Sns and a vague expec of strain which seemed to be localized in the shoulders. As far as I can judge no μ f.t. was attached to it. When No. 4 or No. 5 were heard alone the f.t. seemed much more δ 16 - . intense than when the two st. were together and attended to together. Neither f.t. was localized.

*Expt 111: V 4 and 5 (sue.) (class A III).*

No. 4 slightly unpl., No. 5 more unpl. With No. 4 I had a vivid image of a sunrise. No words were used, yet sunrise meant "another hot day." The whole landscape was the col. of No. 4. The image had a decided unpl. f.t. but I cannot distinguish the Unpls δ 15. i 1. of the col. from that of the image; they seemed to be all one. With No. 5 no image.

*Expt 112: T 2 and 4 (sim.) (class A III).*

No. 2 pl., No. 4 slightly pl. except for one moment when I got a P. Sn. I had great δ 3? difficulty in attending to the f.t.s simly and was not able to discriminate them when attending to both. If I attended to one the other disappeared. When the P. Sn arose it seemed to fill the whole of C. and for that moment I was c. of nothing else. When attended δ 16. to separately the f.t.s were localized. No images.

27/1/16.

*Expt 113: O 4 and 2 (sue.) (class A III).*

δ 7. No. 4 very unpl., No. 2 at first slightly pl. and then changed to slightly unpl. With No. 4 I had a pricking Sn in the nose. I cannot distinguish any f.t. to this pricking Sn. λ 1. Strong impulse to withdraw the head. No image. With No. 2 a faint image of operator's hand and the bottles.

*Expt 114: T 3 and 4 (sim.) (class A III).*

δ 3. No. 3 pl. and No. 4 slightly pl. At first I was not able to attend to both f.t.s but later on I got over this difficulty, although I could not hold them both in the focus of attn for any length of time. They were inclined to oscillate. As far as I can judge there was no δ 16. fusion, both f.t.s were fairly well localized.

*Expt 115: G 1 and 3 (sim.) (class A III).*

No. 1 very pl., No. 3 unpl. Before No. 3 was administered the taste Sn of No. 1 had arisen and I could easily distinguish and analyze out the f.t. from the Sn. With No. 3 I got the tact, and temperature Sns together and almost immediately afterwards the gust. Sn arose. I could distinguish no f.t. to the tact, and the temperature Sns. With the Sn of No. 3 came immediately the unpl. f.t. and for a moment the f.t. of No. 1 disappeared, δ 4. but on attending to the f.t. of No. 1 I could easily hold both f.t.s in C. and this for a considerable time. It seemed as if I must distribute the attn in a certain proportion, because if I gave too much attn to the f.t. of No. 1 the f.t. of No. 3 disappeared, whereas if I attended δ 16. voluntarily to the f.t. of No. 3 the f.t. of No. 1 disappeared. Both f.t.s were very definitely localized, and even when I changed No. 1 to the other side of the mouth I could still localize the f.t.s just as definitely as the Sns.

*Expt 116: V 3 and 4 (suc.) (class A III).*

No. 3 slightly pl. and No. 4 was about neutral. With No. 3 I had a faint image which always seems to arise with this col. I cannot distinguish any f.t. with this image. No. 4 was neutral until a vivid image arose (sunrise). No words but, as before, the whole picture δ 15. meant "another hot day." The image was unpl. and immediately it arose the col. became unpl. too.

*Expt 117: T 4 and 6 (sim.) (class A III).*

No. 4 pl., No. 6 was sometimes pl. and sometimes unpl. when P. Sn arose. No. 6 changed to unpl. whenever it seemed to me that a hair was pulled and as the f.t. kept alternating I had a great difficulty in attending to the f.t.s of 4 and 6 together. I am not δ 3. certain that I succeeded in attending to the two f.t.s together. Two or three times I seemed δ 16. to do this by attending to the f.t. of No. 4 when the P. Sn of No. 6 arose. I localized the f.t.s when attended to separately. With No. 6 whenever a P. Sn arose the contact Sn disappeared.

*Expt 118: P 2 and 3 (sim.) (class A III).*

No. 2 unpl. and No. 3 more unpl. With No. 2 the P. Sn arose slowly and I could distinguish the deep pressure Sn from the P. Sn. With No. 3 the P. Sn arose immediately θ 4 ±. and then its pressure Sn disappeared. With No. 2 I could not distinguish the Unpls from the P. Sn itself, but I seemed to be able to do this with No. 3 by a great effort. I could attend to the two P. Sns simly but not attend to the f.t.s apart from the Sns. When δ 3. attending to the two P. Sns at the same time both their f.t.s were also present at the same time.

*Expt 119: G 2 and 4 (sim.) (class A III).*

No. 2 pl. and No. 4 very unpl. The contact and temperature Sns arose first. The temperature Sn was slightly pl. I could distinguish no f.t. to the contact Sn. For some time I had no gust. Sns at all. No. 2 arose first, its f.t. was well marked. After a while the Sn δ 4. of No. 4 arose and lasted for 4 or 5 seconds. I could hold both f.t.s together in C., there was δ 16. no fusion. F.t.s were localized but not very definitely. Sn of No. 4 disappeared, but later on reappeared more intense than before. It was now very hard to attend to both f.t.s and I could only succeed by giving most of the attn to the f.t. of No. 2. Here again there was no fusion, but now although I can still localize the f.t. of No. 4 the f.t. of No. 2 became diffused and not localizable and shortly afterwards disappeared. Then No. 4 seemed to  $\mu$  become still more intense.

17/2/16.

*Expt 120: A 1 and V 2 (class A iv)*

Both f.t.s rather pl. The f.t. of the and. Sn was probably the more pl. At first I had a difficulty in attending to both f.t.s simly, there was a rapid oscillation from the one to  $\delta$  3. the other. Later on I seemed to be able to attend to both at once, but when attending  $\epsilon$  2. to them together they were indistinguishable. I was able at will to bring either f.t. into the focus of C. Only it seemed to me when I gave more attn to the f.t. of the vis. Sn  $\delta$  16 - . could I get them simly. I quite failed to localize either of the two f.t.s. The vis. Sn seemed less pl. than usual.

*Expt 121: T 6 and O 6 (class A iv).*

Olf. Sn very unpl. Tact. Sn pl. I failed to have both f.t.s in C. if I tried to distribute  $\delta$  4. the attn over both. Only by attending strongly to the tact. Sn could I get both f.t.s simly. Having got them I could keep them relatively stable in C. and the two f.t.s were easily  $\alpha$  3. distinguishable. With the olf. Sn occasionally there were visceral Sns whose f.t., if any,  $\beta$  4. I could not discover. In the middle of the expt both Sns disappeared and I found myself wondering why it was that the tact. Sn usually unpl. was now pl. The f.t. of the tact.  $\delta$  16  $\pm$ . Sn was definitely localized, that of the olf. not.

*Expt 122: G 2 and P 2 (class A iv).*

P. Sn unpl.; gust. Sn very pl. At first I was e. of the pressure Sn, which was not unpl., and the tact. Sn of the gust. st. The latter was slightly pl. Then suddenly the P. Sn arose and was very unpl. Then the f.t. of tact. Sn of gust. st. disappeared and only reappeared  $\delta$  4. when I attended to it directly. At these periods I had both f.t.s together in C. Later on  $\delta$  4. the gust. Sn arose and I found I could attend to its f.t. and the f.t. of the P. Sn simly. Both  $\delta$  16. f.t.s were localized. I have been able here for the first time to distinguish the f.t. of the  $\theta$  4. P. Sn from the P. Sn itself.

22/2/16.

*Expt 123: A 6 and T 5 (class A iv).*

Aud. Sn was very slightly pl. The tact. Sn slightly unpl. becoming very unpl. whenever the P. Sn was aroused. I had a good deal of difficulty in attending to the f.t. of the aud. st. because it was so faint, but by focussing attn upon it and neglecting the tact. st.  $\delta$  4. I occasionally had the two f.t.s simly but only for a moment. The P. Sn was aroused at irregular intervals and was only momentary, but when it did rise it seemed to fill the whole of C. I did not succeed in analyzing out the Unpls from the P. Sn itself. I seemed to be  $\theta$  3. able to attend to both together. The P. Sn when it arose appeared to have a distinct  $\theta$  5. modality of its own to the contact Sn which entirely disappeared from C. It was not a tact. Sn of high Unpls.

*Expt 124: O 4 and V 3 (class A iv).*

$\delta$  5. The vis. Sn was slightly pl., but after the advent of the olf. Sn I could not distinguish any f.t. to it. The olf. Sn was very unpl. Before the olf. Sn arose the vis. Sn had a distinct f.t. and I had a fairly clear vis. image of some flower, but when the olf. Sn arose both image and f.t. of the Sn disappeared. I recognized the olf. Sn immediately and I had the usual impulse to turn the head aside. No visceral Sns that I could discover.

28/2/16.

*Expt 125: T 4 and G 4 (class A iv).*

The gust. Sn very unpl. Tact. Sn was slightly pl. except at such times as there were slight momentary P. Sns. Before the gust. Sn itself arose I had the tact. part and the temperature part of the whole complex, but the f.t. was so faint that I cannot distinguish

it. I had a great difficulty of getting the two Sns together in C. for any time. There was a strong tendency for one to predominate at the expense of the other and it was correspondingly difficult to get the f.t.s simly. I got over this difficulty by attending more strongly to the tact. Sn. If I tried to attend to both, the gust. Sn had a tendency to drive the other out of C. On the other hand whenever the P. Sn arose, which happened suddenly, the gust. Sn tended to go out of C. and it was only occasionally when I got the two Sns somewhat steady that I had the two f.t.s simly in C. Several times when the P. Sn occurred I had a fleeting image of the back of the hand. Slight impulses to swallow.

*Expt 126: A 4 and P 2 (class A IV).*

The pressure Sn was unpl. and the aud. Sn was, as far as I can judge, neutral. The tact. Sn and the slight pressure Sn were not unpl., but when the pressure reached a certain point a P. Sn ensued and the expe became very unpl. The P. Sn seems to me quite different in nature from the pressure Sn (quite another modality), but the latter seems to disappear entirely when the P. Sn arises. I was able to distinguish quite clearly the Unpls from the painfulness and both seemed to increase proportionately. Strong impulses to withdraw the hand. I had great difficulty to attend to the P. Sn and the aud. Sn together, it was only by concentrating the attn on the latter that I experienced them simly and then the f.t. of the aud. Sn, if there was any, was indistinguishable. The P. itself was easily localized but I was not able to localize the Unpls, the f.t. (It was not a mood that accompanied the P. Sn and whose f.t. was unpl.)

3/3/16.

*Expt 127: O 2 and G 2 (class A IV).*

The gust. Sn very pl., olf. unpl. At first the gust. Sn was very faint and I found it very hard to attend to it and the olf. Sns simly. Afterwards its i. increased greatly and then I easily attended to both Sns simly. Both f.t.s were distinct and separate and were present simly. There was no fusion whatever. The f.s were more steady, more stable than usual and that of the olf. Sn less intense than usual. Whenever both Sns were not together in C. the olf. seemed to predominate. No images, no visceral Sns.

*Expt 128: V 1 and P 2 (class A IV).*

The vis. Sn very pl. and the P. Sn very unpl. At first the vis. Sn seemed to have no f.t. at all. I was simply e. of the unpl. f.t. of the P. Sn. Then I had a faint image which is usually called up by this col. and which is distinctly pl., and from that on, the vis. Sn was pl. even after the image had disappeared. I had more difficulty in attending to both f.t.s. There was a great deal of oscillation from one to the other, but by directing more attn to the vis. Sn I sometimes had the two f.s together for very short times. The f.t.s were not as distinct as in the last expt, but they did not fuse. Occasionally I had a very fleeting image of the back of my hand.

6/3/16.

*Expt 129: T 1 and V 1 (class A IV).*

Both Sns pl. I could hold both Sns fairly steadily in C. simly, but have great difficulty in attending to the f.t.s simly. Each f. seemed to predominate in turn and I do not think that I ever had both simly. Whenever I thought I had both f.s together I would find that one of them had disappeared, usually that of the vis. Sn. I do not think there was any fusion but the f.s were never distinct or separate together in C. With the vis. st. there came at first a fairly vivid image. The f.t. of the tact. Sn was localized, but not that of the vis. Sn.

*Expt 130: A 5 and G 4 (class A IV).*

Both Sns very unpl. I could hold both Sns steadily in C. and also the f.t.s. The f.t. of gust. Sn was localized, but not that of the aud. Sn. I had no difficulty at all in attending

simly to both f.s except when now and then I had visceral Sns with an intensely unpl. f.t. At  $\delta 16$ , these times the visceral Sn and its f.t. occupied the whole of C. and this f.t. was localized.

8/3/16.

*Expt 131: O 6 and P 1 (class A iv).*

$\delta 7$ . The tact. Sn was slightly pl. Olf. Sn varied, sometimes it was pl. at other times slightly unpl. With tact. Sn no P. Sn arose, its f.t. was very indistinct, very slight. I found it  $\delta 4-$ , easy to attend to both Sns together, but I do not think I had both f.s together. The f.t. of the olf. Sn seemed to me to predominate, although here too the f.s were very faint.

*Expt 132: V 4 and G 3 (class A iv).*

The vis. Sn unpl., the gust. was very unpl. The gust. Sn arose fairly quickly and then vanished for a while and reappeared later. Both f.s were distinct and fairly steady. At  $\delta 3$ , first I was unable to attend to both f.s at once. Later on I found I could do this easily  $\delta 16 \pm$  because the f.t. of the gust. Sn was localized, whilst the other was not. At first the vis. Sn called up the usual image which only lasted for a short time.

16/3/16.

*Expt 133: A 2 and O 3 (class A iv).*

Both stimuli pl. Both Sns were apprehended simly, but neither seemed to have a  $\delta 11$ . f.t. distinct and separate from that of the other. The whole expec was pl. and whenever either of the two Sns was in the focus of C. it was pl. But when both Sns were in the focus of C. their individual f.t.s could not be distinguished. The aud. Sn seemed to be more  $\delta 16-$ , dynamic than the olf. Sn. Neither f.t. was localized. (This protocol is both retrospective and introspective, the former predominating.)

*Expt 134: T 3 and P 1 (class A iv).*

Tact. Sn pl. The other varying. Whenever a P. Sn arose it was unpl., when a P. Sn did not arise it was neutral. I found it hard to attend to both Sns simly, because the prick Sn was continuously changing and whenever it changed the tact. Sn dropped from C.  $\delta 4-$ , and had to be voluntarily recalled. I did not think that both f.t.s were ever present simly.  $\delta 16$ . Several times I had a faint mental image of my right hand. Both f.t.s were localized,  $\delta 5$ . particularly that of the tact. Sn. The P. Sn was of a different character to the prick Sn (principally introspective).

*Expt 135: G 2 and P 3 (class A iv).*

The gust. Sn very pl. P. Sn very unpl. The gust. Sn arose quickly and the pressure  $\delta 5$ . Sn quickly gave way to the P. Sn which here again seems quite different to the pressure Sn. I could only keep both Sns in the focus of C. by attending strongly to the gust. Sn, but when I succeeded in distributing the attn in the right proportion, as it were, I had no  $\delta 4$ . difficulty in keeping both Sns and both f.t.s quite steady simly. I could definitely localize  $\delta 16$ . both f.s. (Almost wholly introspective.)

*Expt 136: T 6 and A 4 (class A iv).*

Aud. Sn slightly unpl. Tact. Sn also unpl. Both Sns were only occasionally present to  $\delta 11$ . C. simly. When attending to their f.t.s the whole expec was unpl., but I could not dis-  $\delta 16$ . tinguish the particular f. due to each Sn. The f.t. of the tact. Sn was localized. With the  $\lambda 1$ . latter also I had slight impulses to withdraw the hand. (Principally retrospective.)

*Expt 137: O 4 and V 4 (class A iv).*

Both Sns unpl., the olf. Sn the more unpl. I seemed to recognize the odour and the  $\beta 4$ .  $\mu$ . word "onions" arose in my mind. The vis. Sn seemed to be less unpl. after the arrival of  $\delta 11$ . the olf. Sn. Here again although I could attend to both Sns simly I could not separate  $\delta 16-$ . the f.s one from another. Neither f. was localized. With the olf. Sn strong impulses to  $\lambda 1$ . turn the head away. (Mainly retrospective.)

21/3/16.

## Expt 138: A 1 and V 1 (class A IV).

3. Both f.t.s were pl. The aud. st. gave rise to visceral Sns, strongly unpl., and for a time I had three sets of Sns in C. simly with their f.s. The f.t. of the visceral Sn was sharply marked off from the others and was easily distinguishable. But the f.s arising from the vis. and aud. Sns were not distinguishable from one another, i.e. I could not say which part of the Ptre was due to the aud. and which due to the vis. With the vis. Sn there was a 1. the usual image which often recurs. Later on this image disappeared and the f.t. of the Sn became less intense. Half-way through the expt the visceral Sns disappeared, but 16± still I could not distinguish the f.t.s of the aud. and vis. Sns separately. I could localize the f. of the visceral Sn but not that of the other two. (Mainly introspective.)

## Expt 139: T 2 and O 1 (class A IV).

10. The tact. Sn pl. The f.t. of the olf. Sn alternated at first from slightly pl. to slightly 16± unpl. Later on it became wholly pl. Both f.t.s were in C. simly and were distinct from one another. This seemed to me to be due to the fact that I could localize the f. of the tact. Sn whilst that of the olf. was not localized. Both f.s were more steady than usual. No visceral Sns and no images. (Mainly introspective.)

23/3/16.

## Expt 140: T 4 and G 3 (class A IV).

Tact. Sn pl. F.t. of gust. Sn varied, it was never steady. Sometimes it was slightly 16± pl. and sometimes very unpl. Only occasionally could I have both f.t.s simly and then only for a short time. At these times there was no fusion, each f. was distinct and separate 16 and both were very distinctly localized. With gust. Sn I had to inhibit many tendencies and impulses to swallow. (Mainly retrospective.)

## Expt 141: A 4 and P 3 (class A IV).

Both Sns were unpl., the pinch Sn the more so. The P. Sn quickly arose with the pinch and was very intense; strong impulse to withdraw the hand. I had a strong desire to look at my hand which was inhibited. The P. Sn occupied nearly the whole of C. I was only vaguely aware of the aud. Sn and sometimes this seemed to disappear altogether. It was only by attending hard to the aud. Sn that I could get both Sns in the focus of C. When not attending directly to the aud. Sn it seemed to have no f.t. and when directly attended to the f. was not clearly marked off from that of the P. Sn. I found it very difficult to direct the attn voluntarily to the aud. st., the P. Sn was so predominant. (Mainly retrospective.)

## Expt 142: O 3 and G 2 (class A IV).

The gust. Sn very pl., the olf. alternated between slightly pl. and slightly unpl. The olf. Sn itself seemed to vary also. Both Sns were easily attended to simly, but their f.t.s were vague and not sharply defined. The f.t. of the olf. Sn was especially vague. I was 16± only c. of it when directly attending to it. It was not localized while that of the gust. Sn was. An image of the bottle seemed to arise whenever I attended directly to the gust. Sn. (Mainly retrospective.)

## Expt 143: V 2 and P 1 (class A IV).

Prick Sn was slightly pl. except when a P. Sn arose, when it became very unpl. Vis. Sn pl. which changed to neutral when the P. Sn arose. With the vis. Sns there were several f. images to which, as far as I can judge, there was no f.t. When both Sns were pl. neither 16± f. was distinct or separate from the other. I could not say whether they fused, but they were very vague. The f.t. of the prick was not very well localized and that of the vis. Sn not at all. When the P. Sn arose it lasted for some little time and then disappeared.

θ 5. While it was present I could distinguish no f.t. to the vis. Sn. The P. Sn seemed absolutely different from the prick Sn and appeared and disappeared suddenly. (Mainly introspective.)

*Expt 144: T 2 and V 1 (class A iv).*

θ 1. Both Sns pl. With the vis. Sn I had the usual image which seemed to make its f.t. δ 3. more intense. These f.t.s were present simly but while that of the tact. Sn was distinct that of the vis. was very vague, and when directly attended to it seemed to disappear. (Mainly introspective.)

28/3/16.

*Expt 145: A 5 and G 3 (class A iv).*

The aud. Sn slightly unpl., the gust. Sn very unpl. The gust. Sn proper had frequently P. Sns in the roof of the mouth. The P. Sns were only momentary but when present δ 3. everything else was obscure. The aud. Sn became markedly unpl., when visceral Sns were aroused. These visceral Sns seemed to occur rhythmically with a slight "f. of apprehension" as they were about to be aroused. I seemed to know the time when they were δ 16±. to be expected. None of the f. was steady and I could not say whether any two were ever present simly. The f.t. of the gust. Sn was localized, that of the aud. was not. (Mostly introspective.)

*Expt 146: O 4 and P 2 (class A iv).*

θ 2. Olf. Sn very unpl. P. Sn unpl., although afterwards the P. Sn was more unpl. than the olf. Sn. The f.t. of the olf. Sn reached its maximum immediately the st. was presented, δ 7. then gradually died away, then becoming slightly pl. and then unpl. At this stage it was more steady than before. With the other st. I had first a slight pressure Sn which was, if anything, slightly pl. When the P. Sn arose it immediately became unpl. Here again θ 3. I would say that the P. Sn is of a different modality from the pressure Sn. When both δ 3. f.t.s became somewhat steady I could easily attend to both simly. The f.t.s were separate δ 16. and distinct, that of the P. Sn was definitely localized; that of the olf. Sn was localized λ 1. in the nasal chamber, but not definitely. There were present tendencies both to withdraw the head and the hand. In the early part of the expt the brows were contracted. (Mainly introspective.)

29/3/16.

*Expt 147: V 6 and G 4 (class A iv).*

δ 10. The gust. Sn very unpl. Vis. Sn at first unpl. and then fluctuating between unpl. and slightly pl. The gust. Sn was slow in arising. The touch and temperature Sns were slightly pl., but disappeared as soon as the gust. Sn proper arose. The gust. Sn seemed more dynamic than the vis. and it was only by attending more strongly to the latter that I could δ 4. expe the two Sns and the two f.s simly. The f. due to the gust. Sn was well defined and well localized, that of the vis. Sn was vague and fluctuating. There was a strong desire to swallow and when this was inhibited a desire to spit took its place. (Mainly retrospective.)

*Expt 148: O 3 and A 1 (class A iv).*

Aud. Sn pl. The olf. Sn at first unpl., changing to pl. and the second time it was experienced it was very pl. The f.t. of the aud. Sn was very vague and I had great difficulty η 1. in attending to both f.s simly. Slight anger that I could not do what I wanted to do.

When the st. was repeated both f.t.s were more steady. Whereas that of the olf. Sn was δ 16±. localized to a slight degree that of the aud. Sn was diffuse. (Mainly introspective.)

*Expt 149: T 3 and P 3 (class A iv).*

The tact. Sn pl. the pinch was very unpl. With the pinch the initial pressure Sns δ 1. were pl. changing to unpl. as the pressure became greater and becoming very unpl., when

δ 5. θ 5. the P. Sn arose. When the P. Sn arose the pressure Sns seemed to disappear. The P. Sn seems absolutely different from the pressure Sn. With the arrival of the P. Sn the f.t. of the tact. Sn was swamped and could only be made to reappear by concentrating attn δ 4. upon the tact. Sn, then both f.s were distinct and separate and both were very definitely δ 16. localized. With the P. Sn there was a strong impulse to withdraw the hand and the teeth λ 1. were tightly clenched. (Mainly introspective.)

30/3/16.

*Expt 150: T 3 eg. (class B II).*

There seemed to be many different Sns varying slightly in degree and also in quality.

α 2. I was c. also of slight changes of temperature as the velvet touched different portions of the hand. The rhythm of the succession of the Sns was most marked and extremely pl.

I recognized the rhythm as being the same as my respiration. In the tact. Sns proper at λ 1. irregular times there came a slight tickling Sn, not unpl. I found myself desiring the return of these slight tickling Sns. The whole expe was pl., there was a slight regret when the whole thing ended. (Mainly retrospective.)

*Expt 151: T 3 aff. (class B II).*

This attde seemed mnch harder to adopt than the former and I could not keep it constant for any length of time. The eg. attde seemed to have more dynamic force and it needed a strong and continuous effort of the will to keep to the aff. attde. I was again

α 2. κ 2. fascinated by the rhythm and the attn involuntarily returned to this part of the expe whenever it got a chance. The whole expe was very pl. though not quite so pl. as on a κ 1. former occasion. The voluntary effort seemed to decrease the f.t. I again was c. of the Sns varying slightly in degree and quality and also of the changes of temperature Sns, although these were not so marked as in the former case. The f.t. of the tact. Sn proper was much less strong than that of the rhythm which seemed to set the t. to the whole expe. (Mainly introspective.)

*Expt 152: T 3 en. (class B II).*

This attde was not so difficult to maintain as the aff. attde and seemed to be maintained mostly at the expense of the eg. part of the expe. The different Sns seemed far less marked than before and the temperature Sns were absent. The f.t. was very pl., more δ 16. pl. than either of the two former times but did not seem to be so localized as before, it seemed to be spread over the whole body. During the whole expe there was a strong desire that it would last for a long time, mixed with a slight apprehension that it was to end each moment. There was present a slight impulse to ask for the st. to be repeated. This was inhibited. (The eg. part is mostly retrospective and the aff. and en. parts mainly introspective.)

*Expt 153: A 5 aff. (class B II).*

The expe was very unpl. This Unpls seemed to fluctuate a little according as the α 3. aud. Sn altered. During the whole time there was a slight diffuse visceral Sn unpleasantly toned, which changed suddenly to visceral Sns localized in the vicinity of the stomach and very unpl. whenever a particular part of the noise recurred. I was again attracted α 2. by the rhythm of the different sounds constituting the st. This rhythm whenever directly attended to had a slightly pl. f.t., at other times this was swamped. (Mainly retrospective.)

*Expt 154: A 5 en. (class B II).*

This attde was fairly easy to maintain. I was again c. of the same visceral Sns as before though not so unpl. as formerly and localized particularly in the chest. The whole expe was filled by strong desire to stop the noise somehow. This became particularly strong

when it seemed the time for the most unpl. part of the st. to arise. I wanted to stand up, but this impulse was inhibited. (Mainly retrospective.)

*Expt 155: A 5 eg. (class B II).*

I had no difficulty in maintaining this attde. The st. seemed to be composed of many different noises and the corresponding Sns seemed to have varying f.t.s. The total expe was still unpl., but not so unpl. as before. I was not c. of any visceral Sns. The rhythm  $\alpha 2.$  again compelled the attn. This rhythm seemed to be pleasantly toned. There seemed to  $\eta 2.$  be a "f. of apprehension" not unpl., whenever I judged it time for the worst part of the st. to recur. I am not c. of any cn. expe. (Mainly retrospective.)

4/4/16.

*Expt 156: O 3 cn. (class B II)*

δ 7. The f.t. was at first pl. and changed to unpl. and remained so. In the first part of the expe, i.e. when the f. was pl., I cannot find anything cn. in C. The whole expe was vague and colourless as it were. I found a great difficulty in this part in adopting a cn. attde. I doubt whether I succeeded in doing so. In the second part of the expe when the f.t. was unpl. the whole expe was more definite and intense and I found it much easier to adopt this attde. Here I had strong desire to turn the head away from the st. This was inhibited and I found myself taking short sniffs at the odour instead of deep breath as before. It required a voluntary effort to take the usual deep breath. At one period I had a faint image of the bottle in your hand. (Mainly retrospective.)

*Expt 157: O 3 eg. (class B II).*

This attde was easier to adopt than the cn. As before the Sn was pl. at first and then δ 10. changed to unpl., but did not remain so all the time, later there was an oscillation between pl. and unpl. The odour seemed much stronger than before. I judged that this was due to your having shaken up the bottles. The aff. character seemed much less intense and the f. more diffuse than before. I was c. of no impulse to turn the head away as in the first case. The Unpls particularly seemed much fainter. I had a very vivid image of the bottle and the contents were a brilliant pink. (Mainly introspective.)

*Expt 158: O 3 aff. (class B II).*

δ 10. The Sn was pl. most of the time; occasionally it changed to unpl. for a short time. I found the attde the hardest of the three to adopt. I find that when I give myself up to this attde, the aff. side of the Sn, the Sns from the body came in, particularly Sns of position and the Plre of sitting comfortably in the chair. These bodily Sns and their f.t. δ 5. partially swamp the olf. Sn and its f.t. During the expe I had several irrelevant thoughts, one concerning the change of the f.t. from unpl. to pl. I had no impulse and no images. (Mainly retrospective.)

28/4/16.

*Expt 159: V 6 eg. (20 secs) (class B II).*

I succeeded fairly well in adopting this attde. The col. had a very unpl. f.t. which, however, did not seem to remain constant for long. The col. varied considerably as I δ 6. continued looking at it, particularly in brightness. The f.t. seemed to be most pronounced when the brightness was greatest. At times the coloured square completely disappeared and its place in C. was taken by various images centred about situations where I had seen  $\iota 1.$  this col. Only one of the images seemed to have any f.t. and that unpl. I seemed to have been looking at the col. for a long time and the thought arose "how much longer will it take?" As far as I can judge there was no cn. element in the expe. I seemed to be passive the whole time. (Mainly introspective.)

*Expt 160: V 6 en. (20 secs) (class B II).*

This attde seemed more difficult to adopt. The col. was still decidedly unpl., but the  $\eta$  11. f.t. did not seem to fluctuate as before. It produced in me an emotional state of resentment and the coloured square appealed to me as something to be removed. The whole state of mind could be described as aggressive in contradistinction to the passive attde of previous expt. As I continued looking at it, this state of resentment became more pronounced until at last, when the signal to stop came, it had changed into a kind of incipient anger.

$\eta$  1. I had no images at all. (Mainly introspective.)

*Expt 161: V 6 aff. (20 secs) (class B II).*

I seemed to be fairly successful in adopting this attde. The expe was very unpl.  $\delta$  9. I again noticed fluctuations in the f.t. corresponding to the changes in apparent brightness. The f.t. seemed to become greater the longer I looked upon the col. I had no vis. images, but two or three and, images of words that described the col. Towards the end of the expt there was slight impatience and resentment and a desire expressed in inward speech that the time would soon be up. (Mainly retrospective.)

*Expt 162: G 4 aff. (1 drop) (class B II).*

I was first c. of the temperature and tact. Sns which had very little f.t., slightly pl. if anything. This was followed by a slight Sn from the roof of the mouth as if the mucous membrane was contracting. This remained for some seconds. There was a distinctly  $\gamma$  1. unpl. state of expectancy. I was wondering when the taste Sn proper would develop and calculating the time that had elapsed since the st. had been administered. I had an inclination to swallow the saliva accumulated in the mouth. I did so and immediately the taste Sn arose, localized at the extreme back of the tongue, not where the st. was administered. With the arousal of the taste Sn the expe became much more unpl. and their f.t. increased as the taste Sns spread over the whole of the tongue. The attde was adopted without much difficulty. (Mainly introspective.)

*Expt 163: G 4 eg. (1 drop) (class B II).*

The tact. and temperature Sns came first as before. The temperature Sn was much more prominent than the tact. It had a faint but distinct pl. f.t. This was followed by peculiar Sns from the roof of the mouth and from the tongue itself. I think these Sns were unpl., but I am not certain. The taste Sn proper did not arise until I made a swallowing movement. It arose suddenly and its f.t. immediately became intense. As before, this Sn was at first localized at the back of the tongue and then spread over the whole tongue. (Mainly introspective.)

*Expt 164: G 4 en. (1 drop) (class B II).*

I find this attde the hardest of the three to adopt and I did not seem very successful in adopting it on this occasion. This attde seems to me to be connected with the contraction of the muscles of the shoulder blades and a straightening of the spine. As before the tact. and temperature Sns came first, neither were very marked and neither seemed to have a f.t. I was not c. of those peculiar Sns from the roof of the mouth which I noticed in the preceding expts. The taste Sn proper did not arise for some seconds but during that interval I had slight Sns remaining from the last expt which were unpl. I was c. the whole time of the impulses to swallow. When I gave way to one of these impulses the taste Sn arose immediately and with it the f.t. The impulse to swallow was now stronger and I also had a desire to spit. (Mainly retrospective.)

31/5/16.

*Expt 165: P 1 en. (5 secs) (class B II).*

$\theta$  5. I can distinguish the pressure Sn and the P. Sn, the former lasted for a very short time indeed. The P. Sn arose suddenly and attained its maximum i. almost immediately.

There were numerous impulses to withdraw the hand, in some cases the hand seemed to me to move a little and it needed some effort to inhibit the impulses. The cn. attde seems in my case to be accompanied by a contraction of the muscles about the shoulder-blades and the throat. I found it hard to keep this attde constantly. There was an inclination to revert to the aff. attde. (Mainly retrospective.)

*Expt 166: P 1 aff. (5 secs) (class B II).*

θ 5. The pressure Sn which preceded the P. Sn was distinctly pl. As before the P. Sn arose suddenly and immediately attained its maximum i. and was extremely unpl. I was at no times c. of any impulses to withdraw the hand as is usually the case. The f.t. of the P. θ 7. Sn was not at all constant. It was extremely unpl. at first and then became gradually less unpl., and then again gradually increased in Unpls towards the last. There was a β 4. distinct f. of Ptre when the st. was removed. I found this attde easy to adopt and easy to keep constant. (Mainly introspective.)

*Expt 167: P 1 eg. (5 secs) (class B II).*

θ 5. As before the pressure Sn was sharply distinguished from the P. Sn. The P. Sn was θ 9. not constant for any length of time. There seemed to be nothing definite about these θ 6 - . fluctuations. As far as I can judge the f.t. kept parallel with the P. Sn as regards i. I was also c. of slight itching Sn from parts of the skin adjacent to the prick. These were not θ 1. unpl. I was again c. of slight impulses to withdraw the hand which needed very little effort to inhibit them. (Mainly introspective.)

14/6/16.

*Expt 168: T 6 aff. (class B II).*

I seemed fairly successful in adopting the attde. The whole expe was pleasantly θ 1. toned except occasionally when there was a slight P. Sn. I do not think the P. Sn was unpl., it lasted too short a period, it seems to me, for the f. to arise. I was c. of movements and stretchings of the skin, but cannot distinguish any f.t. to them. The f.t. of the expe β 4. seems to be bound up with the tact. Sn proper. I had a distinct but slight f. of Unphe when the st. was taken away. (Mostly introspective.)

*Expt 169: T 6 eg. (class B II).*

This attde also seemed fairly easy to adopt. In comparison with the former expts the f.s were much less marked. For about half the time during which the st. was applied I could not distinguish any f.t. whatever. It was certainly not unpl., but I cannot say it was pl. The eg. part of the expe was more in detail than formerly. In the former expt I was c. of the sand-paper as a whole being rubbed across the skin, but on this occasion I could distinguish the Sns arising from different points of the sand-paper. I was not c. of any P. Sns. About the middle of the expt I found myself comparing this expe with the previous one. I had a slight image of the part of the hand being rubbed. (Mainly introspective.)

*Expt 170: T 6 cn. (class B II).*

This attde is by far the hardest of the three to maintain. When trying to adopt this attde I am c. of well-marked Sns definitely localized coming from the muscles of the shoulder-blade and the shoulders. The f.t. was very slight but was distinctly unpl. This Unpls increased with the d. of the st. I found myself counting the number of times the sand-paper was rubbed across the skin and about the fourth time I had an impulse to say "this is enough." It did not seem to require a strong effort to suppress that impulse. β 4. Distinct f. of Ptre on removal of st. The eg. part of the expe was again more general than in the previous expt. (Mainly retrospective.)

*Expt 171: A 1 en. (class B II).*

I had a great difficulty in adopting this attde and found it still more difficult to maintain it. With this Sn the aff. attde seems the most natural, and whenever I voluntarily released the effort to maintain the en. attde I found I had adopted the aff. attde. As before, this attde seems to be bound up with contractions of the muscles of the shoulder-blades. Whenever I succeeded in maintaining the en. attde for any time it seemed to express itself in a desire that the st. would continue. I found the Sn very pl. (Mainly retrospective.)

*Expt 172: A 1 aff. (class B II).*

The attde was easy to adopt and to maintain. It seemed to require no effort at all.  $\epsilon 3$ . The expe was most pl., particularly towards the end when the sound was dying away. Its f. is soothing. As far as I can judge the muscles generally seem relaxed. This relaxation of the muscles seems to be the cause of the restfulness. During the latter part of the expe the chief eg. part of C. seems to be the beating of one's heart. (Mainly introspective.)

*Expt 173: A 1 eg. (class B II).*

The attde was fairly easy to adopt although it required a small effort. Compared with the previous expe the f.t. is much less intense although it is still pl. The f.t. gradually  $\epsilon 3$ . increased as the sound died away. This dying away which before seemed gradual now appeared to go in jerks. About the middle of the expe I had a hazy image of the tuning fork. I again had slight Sns from the relaxed muscles of the trunk and legs particularly, although not so marked as in last expt. (Mainly introspective.)

28/6/16.

*Expt 174: O 4 eg. (class B II).*

I seemed fairly successful in adopting the eg. attde. I seemed to be able to distinguish two different sets of Sns arising from the st., the olf. Sn proper which seemed to be a mixture of different odours, and a prickling Sn from the mucous membrane of the nose. Both Sns were very unpl. The odour was recognized immediately it was smelt and the word "onion" arose in inward speech. There was also a fleeting vis. image of an onion. The prickling Sn died away quickly, but the olf. Sn proper continued for some time after the st. was  $\lambda 1$ . withdrawn. When the st. was first presented there was a strong inclination to turn the head away. (Mostly introspective.)

*Expt 175: O 4 aff. (class B II).*

I seemed to be able to adopt this attde more easily than the other two. The Sn was most unpl., particularly at the beginning. The f.t. gradually decreased in i., until the st. was withdrawn when it suddenly increased in i. and then died away gradually. The  $\lambda 1$ . odour was again immediately recognized. No images. I was again c. of very strongly marked impulses to turn my head away. Much more strongly marked than in the last expt. I was c. of no prickling Sns this time, but the odour seemed to be a mixture of several odours. (Mainly introspective.)

*Expt 176: O 4 en. (class B II).*

I had great difficulty in adopting this attde, but seemed to be more successful this time than usual. The expe was again unpl., but not nearly so much as before. There was no  $\eta 1$ . imagery. In the expe I can discover a kind of incipient anger which seems to be directed against the bottle and its contents, but not against the person. I again recognized the odour at once, but the recognition seemed to carry much less weight than before. It seemed  $\lambda 1$ . to be taken as a matter of course. I again had impulses to turn the head away which after being inhibited returned again and again. Towards the end of the expt I was c. of twitching

of muscles of lower lip and jaw, which were very unpl. and also Sns from muscles of shoulder-blades. (Mainly retrospective.)

*Expt 177: V 1 aff. (6 secs) (class B II).*

Attde easily adopted. Sn very pl. I had the usual vis. image which arises when I see 1. this col., though not quite as vivid as usual. As far as I can judge the image itself had 3. a pl. f.t. Distinct f. of Unpre when st. was removed. I think I can distinguish the 3. pl. f.t. of the col. and that of the image, they had different durations. they were sim. (Mainly introspective.)

*Expt 178: V 1 en. (6 secs) (class B II).*

Again I had difficulty in adopting this attde. The attde seemed to consist mainly of the faint Sns from the shoulder-blades together with a desire that the Sn should continue, 4. which lead to a distinct f. of Unpre when the st. was removed. I had no vis. image. The attn was greatly attracted by fatigue effects around margin. (Mainly retrospective.)

*Expt 179: V 1 eg. (6 secs) (class B II).*

Attde easy to adopt. Expe was very pl. I again had the vis. image connected with 1. this col. very vividly. I can distinguish a f.t. to the image and one to the col. The two 17. f.t.s are distinct, though that of the image is faint. This distinction seemed most marked when the image died away. I was c. of different degrees of brightness on different parts of the square, they seemed to change their position. Fatigue effect again noticeable. (Mainly introspective.)

5/7/16.

*Expt 180: G 2 en. (class B II).*

I seemed more successful than usual in adopting this attde, although it is still difficult. The temperature Sn arose first with a slight f. of Plre. This was succeeded by an acid taste which seemed to last for several seconds and was unpl. Then the true raspberry taste arose and immediately the f. changed to pl. In this last stage there was a hazy image of the bottle. This en. attde seems to be bound up in my case with the usual bodily Sns, particularly from the shoulder-blades, and finds expression in a desire or aversion. With the unpl. acid taste there was a desire that the mental state should end. I think I can find

η 1. λ 1. traces of incipient anger at this stage. When the f. changed to pl. the desire was to prolong the situation. No co-existence, only succession of f.s. (Mostly retrospective.)

*Expt 181: G 2 eg. (class B II).*

Attde was easily adopted. As before the temperature Sn arose first and was pl. This was succeeded by an interval of unpl. acid taste which lasted much longer than last time. The continued Unpls caused me to make a swallowing movement and immediately the true taste arose and the f. changed to pl. No images at all. The en. part of the expe was 1. well marked. In the second unpl. stage this desire to end the present situation became very strong and I found myself mentally comparing the length of this stage with that of the 20. previous expt. The changes from pl. to unpl. and back again were sudden. I can distinguish 16. no co-existence of f.s, but the f.s were localized with the Sns. (Mainly introspective.)

*Expt 182: G 2 aff. (class B II).*

Attde easy to adopt. I can again distinguish the three stages: temperature Sn, unpl. acid taste and the pl. raspberry taste. In this case the pl. f. seemed much more intense than in the two previous expts, but the unpl. acid taste of the second stage seemed less intense. There was no imagery. The en. side of this expe was almost non-existent, there was only a very slight desire to prolong the third stage. As far as I can judge the adoption of this attde is connected with the relaxation of the muscles and deeper breathing. (Mainly introspective.)

*Expt 183: P 3 eg. (3 sees) (class B II).*

θ 5. I can distinguish the tact. Sn from the P. Sn which arose almost immediately and at once attained its maximum. At this stage the expece was very unpl. I had the usual  $\lambda 1.$  impulse to pull the hand back. On withdrawal of the st. the P. Sn gradually decreased,  $\beta 4.$  but lasted for some seconds. The expece now was decidedly pl., although I could still distinguish the P. Sn. This co-existence of f. of Plre and the Sn of P. lasted I should judge for 3 or 4 seconds, and was accompanied by a relaxation of the body muscles Attde easy to adopt. (Mainly introspective.)

*Expt 184: P 3 cn. (3 secs) (class B II).*

I think I succeeded in adopting the attde although with the usual difficulty. The θ 5. contact Sn is again easily distinguishable from the P. Sn. I can distinguish no impulse to  $\lambda 1.$  withdraw the hand. There was a strong desire to end the situation in some way or other though no means of doing so presented themselves to my mind. There was a violent contraction of most of the skeletal muscles, causing the right hand to be clenched. I  $\beta 4.$  again had the co-existence of the Sn of P. with the f. of Pls when st was removed, but not nearly so well marked as before. When the unpl. f. was most intense I had a very vivid image of your hand and the forceps. (More introspective than usual with the cn. attde.)

*Expt 185: P 3 aff. (3 secs) (class B II).*

Attde very easy to adopt. F.s themselves this time were not so intense as in the previous  $\lambda 1.$  expts and the P. Sn was not nearly so great. I had the usual strong impulse to draw back the hand and was also c. of the contraction of the skeletal muscle and the clenching of the right hand. On removal of the st. the P. Sn rapidly disappeared, but I still had the  $\beta 4.$  co-existence of the Sn of P. and the f. of Plre. No imagery. The unpl. f.t. of the P. Sn  $\delta 16.$  was definitely localized, but the pl. f.t. though localized in the hand was not in any definite part of it. I was again c. of a relaxation of muscles co-existing with the pl. f. (Mainly introspective.)

12/7/16.

*Expt 186: V 1. F. of Memory Images, etc. (10 secs) (class D).*

The revived memory image was fairly steady and most complete, though not nearly so distinct as the original expece. The revived memory image was pl., its f.t. seems just as intense as in the original expece, but I can find nothing in common between this f. and the memory of the f. when the col. was first exhibited. As far as I am able to judge I would say that the two f.s, i.e. the first at the sense presentation and the second at the memory image, are absolutely independent of one another. The remainder of the expece consisted of a series of images, five altogether, immediately succeeding one another. I find that the memory of the f. of the original sense presentation has no aff. character at all, it is merely a eg. content of C. of having had the expece.

*Expt 187: T 2 (10 secs) (class D).*

The memory image of the tact. Sn was elusive at first, but became fairly constant when the vis. image of the st. was kept before the mind. The memory image was pl., but the f. in this case was much less intense than the f. of the sense presentation, it was distinct but very faint. Here again I can discover no aff. state which bears the same relation to the f. of the sense presentation as the memory image does to the sense presentation on the eg. side. The f. connected with the memory image is a new f. and not a "revival."

19/7/16.

*Expt 188: G 2 (2 drops) (class D).*

I had great difficulty in reviving the original expece but found I was helped in doing it by calling up a vis. image of the bottle of syrup. The revival expece was very fluctuating,

occasionally clear, more often vague and then disappearing altogether. When the revived expe was clearest I could distinguish a distinct but weak f. connected with it, although the revived expe is known at once as a revival and not an original expe. This seems to be different with the f. The f. has no characteristics by which I could say it was a memory image of the former f. When the revived expe was vague I could not distinguish any f. to it.

*Expt 189: A 1 (15 sees) (class D).*

Revival easy. I had no difficulty whatever in reviving the tone. No efforts seemed to be required, it seemed to be accompanied by a vis. image of the tuning-fork. The memory image has distinct f. attached to it just as intense, or perhaps even more intense than that of the original expe. This f. was not fluctuating, it remained present as long as the memory image was kept before the mind. Here again the f. seems to be an original one and not a memory image. I can discover no connection between it and the f. attached to the original expe.

24/10/16.

*Statement. Influence of attention upon feeling.*

I hold that it is possible to attend to a f. and the f. becomes intensified by concentrating attn upon it. On the other hand I do not think it possible to attend to the f. apart from the Sn with which it was connected. That is to say, both f. and Sn must be in C. together, although we can make the f. or the Sn, as we will, the focus of attn.

*Expt 190: T 2. Alternation of three alternates: Attn to eg. content, to aff. content, and relaxation (Class C).*

Changing the attde bothered me at first. I found it easy to change from the eg. to the aff. attde and could sharply turn from one to the other. It was also nearly as easy to change from the aff. to the passive attde, but changing from the eg. to the passive and *vice versa* I found difficult. There seemed to be a transition period in which neither attde prevailed and when there was little else in C. than the effort to make the particular attde prevail. Speaking generally, with the aff. attde f.s became more intense and more degrees of Plre and Unpre were noted. With the eg. attde the aff. part of C. became much less intense and had much less variety. The passive attde seemed to influence adversely the aff. contents of C. much more than the eg. contents. The eg. attde seems much more akin to the passive attde. In changing from passive or eg. to aff. attde or *vice versa* the change in the i. of the f. was surprisingly abrupt, it seemed to change immediately. This abruptness was absent in the case of the change from eg. to passive or *vice versa*. With me in the two latter attdes the f. seemed to be of the same i., but the passive attde causes a diminution in the variety and number of the eg. elements of C. The adoption of the aff. attde causes a slight diminution in the number and variety of the eg. elements, but not nearly to the same extent as the passive attde.

I failed entirely to attend to the f. as a thing in itself and I also failed to attend to the Sn without having the f. in C. as well. For me to attend to the f. means to have the f. more in the focus of attn than the Sn and to attend to the Sn means to have the Sn more in the focus of attn than the f. With the passive attde the attn seemed to be more evenly distributed over the two, but both are always in C. together.

30/10/16.

*Expt 191: A 2. Alternation of three attdes as above (class C)*

I found it easy to change my attde from eg. to aff. and from passive to aff., but not so easy to change from either of these to the eg. attde. In the latter case there was always

a transition period of some strain. With the adoption of the aff. attde the f. element of the expe is more intense and the cg. element is subdued and this is reversed when the cg. attde is adopted. At no time was the f. alone in C., although at times the cg. element had very little, if any, f. connected with it. Although I tried several times I could never drive the cg. element out of C. whilst attending to the f. alone. When the passive attde was adopted the aff. elements seemed to suffer most. My passive attde is not very different from my cg. attde.

3/11/16.

*Statement.*

*Account of the different attitudes.*

By attending to an object I mean to bring it before C. in such a way, that it is the predominant element in the expe. I do not mean that it is the sole content of C., but that it is the clearest and most intense part of the content, that the object attended to predominates in C., but does not itself fill the whole of C.

To adopt the cg. attde means to direct the attn in such a manner that the cg. elements of the expe predominate over all others.

To adopt the aff. attde means to direct the attn so that the aff. elements of C. predominate, not so as to exclude all other elements, but to subdue them. In adopting both these attdes there is some cn, some strain. In adopting the passive attde this strain is absent, the mind is more receptive and not aggressive and the attn is not directed to any one element of C. in particular.

In adopting the critical attde I tried to direct the attn upon one element of C. to the exclusion of all others, but I never succeeded in doing this completely, although at times when concentrating the attn on the cg. element there is very little f. present. But when concentrating the attn upon the aff. elements the cg. elements are always present.

10/11/16.

*Expt 192: (class D).*

*Memory and F.*

(1) The situation I remember is that of a lady singing a song at a concert. The song was "Softly awakes my heart" in "Samson and Delilah," and I have distinct memory-images of the singer, the hall, the people sitting with me and also of the song.

(2) The situation is that of the same singer on the same occasion singing a second song. The memory-images of the singer, the hall, my friends, etc., are just as clear as in the first situation, but, although I know the name of the song, "Mother o' Mine," I have no memory-image of the melody.

*Introspection on (1).*

I can call up a memory-image of the whole scene immediately. The image is remarkably clear and definite. The f.t. connected with it is very pl. and very distinct. To me the f. has no marks that would enable me to say that it is a memory-image of the original f., it is in nowise different in nature from the f.t. of any situation which I experienced for the first time.

*Introspection on (2).*

The memory-images of the singer and the hall and the people are just as distinct and clear as in (1) and is slightly pleasantly toned, but when I try to call up a memory-image of the song and concentrate my attn on the song other parts of the total memory-image become obscure and the f.t. seems to disappear entirely. When I try to get the whole scene into the focus of attn, that is the vis. images of the hall, the people, etc., as well as the aud. image of the song there is no f.t. connected with the expe, nor do I succeed in getting

an image of the melody. I *know* that at that time I was greatly moved when hearing the song and now after hearing someone else sing the same song I can call up both the vis. image and the aud. image and the f.t. is then very pl. and very marked.

6/1/17.

*Expt 193: (class D). Comparing Memories.*

Q: *Do you like marmalade?*

A: *Yes* (after hesitation).

The question was a surprising one and seemed to take some time before I grasped that it was the question. The first word that attracted attn was marmalade. The meaning of the rest of the question was only grasped when recalled, revived. The word marmalade called up an image of the kitchen in my home where marmalade was being made this morning. The question then came back to C. and the answer came, as far as I can tell, spontaneously. No memories of tasting marmalade before.

*Expt 194: (class D).*

Q: *Do you like raspberry jam?*

A: *Yes* (after short hesitation).

Again the question was rather surprising, I expected something different. The question came into my mind: "Is marmalade jam?" No satisfactory answer came. Then the original question came back into C. with the accent on the word "like." This was followed by a vis. image of tins of raspberry jam in a grocer's shop-window. The original of the image is in my home. Then the answer came, as before, spontaneously. When searching for an answer to my own question: "Is marmalade jam?" the f. was slightly unpl., otherwise the expe was neutral.

*Expt 195: (class D).*

Q: *Which of the two do you like better?*

A: *The former* (marmalade).

The question seemed to me to be incomplete, I was waiting for you to mention the two things to be compared. Then it occurred to me that you meant the marmalade and raspberry jam. Each of these two was in turn uppermost in C. Marmalade called up an image of the breakfast table and raspberry jam that of the tea-table with cakes on it on which I was accustomed to find raspberry jam at home. This alternation of the two ideas followed by the respective images took place several times but no answer suggested itself and the situation was one of considerable strain and distinctly unpl. I felt annoyed with myself for keeping you waiting for an answer so long. The next thing I remember is a very clear memory image of the slightly bitter taste of marmalade. This quickly disappeared and was followed by the recurrence of the idea of raspberry jam. There was no revival of the taste of raspberry jam, but I *knew* that I had found it rather insipid. Then the two ideas, "pleasantly bitter" and "insipid" took the place of marmalade and raspberry jam and the answer followed spontaneously.

23/1/17.

*Expt 196: (class D).*

Q: *Do you like plum jam?*

A: *Not very much* (hesitation).

The words plum jam immediately called up an image of bottle of plum jam, dark in col. in my home. I immediately remembered that this jam had given me, as I thought, indigestion at some time; but there was no gust. image. I was about to answer "No" when another image came of a jar of light coloured plum jam which I had seen here and which I remembered I had liked. There was a state of rather unpl. indecision as to whether

I should base my answer upon my expee with the light coloured or dark coloured jam. I decided to average them and the answer followed.

*Expt 197: (class D).*

Q: *Do you like black-currant jam?*

A: *No* (at once).

As before I had an image of that jam in a dish, I believe there was a slight gust. image and I knew at once that I disliked the jam and answered "No."

*Expt 198: (class D).*

Q: *We had raspberry jam, black-currant jam, marmalade, plum jam. Arrange them in the order in which you prefer them.*

A: *Marmalade, raspberry jam, plum jam, black-currant jam.*

I repeated inwardly the names of the four kinds of jam. I seemed to know immediately, that I liked marmalade best. I can find no reason why I put it first, as it was not compared with any of the others. Then I had an image of the taste of black-currant jam which was unpl., and I immediately decided that it would be the fourth on the list. It took longer to place the other two and the attn alternated between raspberry and plum. When the idea "raspberry jam" was in the focus of C. the word "insipid" arose and when this was succeeded by the idea "plum jam" the word "indigestion" arose, but there were no images of the taste of either. Then I found myself comparing the words "insipid" and "indigestion," and I decided that the former was to be preferred to the latter. But I cannot say why I decided. After this decision was made the order was given in full. The latter part of the expee, i.e. the judging between raspberry and plum jam was, if anything, unpl. and the tension was considerable. I seemed to be a long while deciding.

### OBSERVER Z.

*Statement.*

I hold the view that two f.s cannot coexist in C., but fuse. I do not hold this view with any great degree of certainty, but I am inclined to this view both on introspective evidence and theoretical grounds.

(a) *Introspective evidence.* This is confined to the fact that I do not remember ever to have had two f.s coexisting in C.

(b) *Theoretical grounds.* I see no reason for disagreeing with Wundt's view that the source of the f.s is unitary, or that all simple f.s form a single inter-connected manifold and that there is no f. from which it is not possible to pass to any other through intermediate forms or through indifference tones.

This seems to me to imply that at a given instant only one f.t. can exist in C.

F. seems to be connected with the subject *as a whole*, and if a new Sn is introduced the accompanying f.t. would spread out so that a resultant f.t. is expecd at a given instant.

I am not aware that my view is necessary to fit in with any theory or system I hold.

I have, however, studied psychology under Wundt and have used his books as a basis for my reading and this has naturally influenced my views, although I cannot be said to "hold any theory or system."

12/10/15.

*Expt 1: T 1 (class A 1).*

Rather pl., more due to Sn of warmth than tact. Slight tickling.

*Expt 2: O 1 (class A 1).*

Quite pl. Inhaled to get more of it. Tried to associate with something known. Choco-  
late.

*Expt 3: A 1 (class A 1).*

Mnch harder to say. Except for the first shock, which was unpl., the Sn was on the  
whole neutral.

*Expt 4: V 1 (class A 1).*

Rather pl.

*Expt 5: G 1 (class A 1).*

Very pl. Took some time to rise. There was anticipation of taste.

*Expt 6: P 1 (class A 1).*

Slight Sn of P., slightly unpl. Applied again: there was a certain amount of P., f.t.  
was slightly unpl.

*Expt 7: A 4 (class A 1).*

Rather slightly pl. Trying to trace associations.

*Expt 8: V 4 (class A 1).*

If anything, unpl. Very slight.

*Expt 9: O 4 (class A 1).*

Unpl. Not so unpl. as it used to be as a child.

*Expt 10: T 4 (class A 1).*

δ 15. Varied, first unpl. and when realised what it was, became pl. Ekphored associations.

*Expt 11: V 5 (class A 1).*

Neutral to unpl. Cannot call it a col. I like.

*Expt 12: A 5 (class A 1).*

Rather unpl. When it had lasted a little the comic element came in.

*Expt 13: O 5 (class A 1).*

Unpl., at once.

*Expt 14: T 5 (class A 1).*

Slightly unpl.

*Expt 15: G 4 (class A 1).*

Slightly unpl.

*Expt 16: O 2 (class A 1).*

At first pl., but quickly changed into sickly, unpl.

*Expt 17: V 4 (class A 1).*

Very slightly unpl.

*Expt 18: V 3 (class A 1).*

Pl., something restful.

*Expt 19: T 3 (class A 1).*

Pl., due to slight element of tickling.

*Expt 20: A 3 (class A 1).*

A little unpl.

*Expt 21: O 3 (class A 1).*

Rather pl.

*Expt 22: G 3 (class A 1).*

Unpl. (more so than G 4) later became quite pl. as it diffused.

*Expt 23: P 3* (class A 1).

Strongly unpl. P.

*Expt 24: O 6* (class A 1).

Beginning unpl., then thought of nutmeg which I rather like.

*Expt 25: T 6* (class A 1).

Very slightly unpl. in itself.

*Expt 26: P 2* (class A 1).

There was P. on pressure on bone, f.t. unpl.

14/10/15.

*Expt 27: T 2* (class A 1).

Pl.-medium pl.; Sn of warmth and tickling. F.t. was pl.

*Expt 28: G 2* (class A 1).

First tact. Sn neutral, slightly coloured, neutral. On moving tongue back a sweet Sn very pl. Smooth tact. Sns.

*Expt 29: A 6* (class A 1).

δ 15. At start unpl., then it appeared to become pl. Associations arose of noisy children in my neighbourhood, then of the song of birds.

*Expt 30: V 6* (class A 1).

Element of interest, cannot say what f.t., probably neutral. Inferred that since I λ 3. wanted to look at it it must have been pl.

*Expt 31: A 2* (class A 1).

Slightly pl. Think due to quality and softness of tone and moderate i.

*Expt 32: T 1* (d. <) (class A II).

Pl. in each case, could not say which is the more pl. C. of two differences, shorter and longer d., f.t. lasted as long as each st.

*Expt 33: O 1* (d.i. <) (class A II).

F.t. stronger in second, also more complex, satisfaction coming in that I got more of δ 3. it. Think two f.s co-existing, viz. that due to Sn and due to the satisfaction. The second Sn seemed to have more extensity.

*Expt 34: A 1* (d.i. <) (class A II).

First more pl., an account of softness, something disturbing and jarring due to i.

*Expt 35: V 1* (d.i. <) (class A II).

F.t. more pl. in second than first.

*Expt 36: G 1* (d.i. <) (class A II).

λ 1. First pl., but weak, desire to get more, not satisfied. Second mostly tact. at beginning, became very pl. as the gust. element developed. Attained maximum which oscillated with states of less, although still great, Pls.

*Expt 37: P 1* (d.i. <) (class A II).

Both unpl., both Sns of P., second stronger. Quite simple to analyse compared to θ 4. gust. I think it is quite easy to separate f.t. from Sn.

*Expt 38: A 4* (d.i. >) (class A II).

Very difficult. Repeat expt. I think the second was more pl. Not sure whether first ά 2. η 4. was pl. or unpl. or neutral. The d. had nothing to do with the f.t. Sorry second came to an end.

*Expt 39: V 4* (d.i. >) (class A II).

α 2. First pl. When second appeared I was e. of preferring first. D. had nothing to do with it. Second was by itself neutral.

*Expt 40: O 4 (d.i. < ) (class A II).*

First: peculiar Sn, no definite f.t. Second: f.t. decidedly unpl., it had greater extensity.

*Expt 41: T 4 (d.e.i. < ) (class A II).*

a 2. First: pl., c. of roughness which was very slight. Second: slightly unpl. D. had no effect. Faint vis. images during first of something smooth. In second of sand-paper or wire-gauze.

*Expt 42: V 5 (d.i. < ) (class A II).*

Col. neutral in both cases. The element of brightness made second st. to be preferred.

a 2. D. nothing to do with it.

*Expt 43: A 5 (d. < ) (class A II).*

a 2. Both slightly unpl. Time seemed to affect it, since first st. was preferred because shorter.

*Expt 44: O 5 (d.i. < ) (class A II).*

First: very slightly unpl., even doubtful whether neutral. Second: distinctly unpl.

*Expt 45: T 5 (d.i.e. < ) (class A II).*

C. of difference in extensity, f.t. in both neutral.

*Expt 46: G 4 (1 drop and 4 drops) (class A II).*

Second slightly more unpl., difference was not so great as I expected it to be.

*Expt 47: O 2 (d.i. < ) (class A II).*

First quite pl., second much the same in Sns. F.t. probably due to effect of first not worn off.

*Expt 48: V 4 (d.i. < ) (class A II).*

a 2. First rather pl. When the second st. was given the brightness was pl., but the col. was unpl.

15/10/15.

*Expt 49: O 4 (d.i. < ) (class A II).*

Both unpl., first only slightly, which seemed like old cheese. In the second I recognized Asafoetida, quality differed.

*Expt 50: T 4 (d.i.e. < ) (class A II).*

I cannot distinguish between f.t. of the two st. Both f.t.s appeared neutral, Sns differed, though both were rough. I noticed no difference in extensity or d., but difference of i.

*Expt 51: V 3 (d.i. > ) (class A II).*

Second more pl. F.t. in first very faint or neutral. Second Sn more saturated. Surprise.

*Expt 52: T 3 (d.i.e. < ) (class A II).*

Both slightly pl. Both about the same. There was more of the Sn in the second, but no difference in f.t. Not c. of any difference in i. or d., but only of e.

*Expt 53: A 3 (d.i. > ) (class A II).*

a 2. First st. more pl. owing to d. rather than difference in i.; second was also pl. but less so.

*Expt 54: O 3 (d.i. < ) (class A II).*

First pl., second pl. also, apparently the same. There was little difference in i.

*Expt 55: G 3 (1 drop and 3 drops) (class A II).*

Both unpl., so acid in both cases. The second was only *very* slightly more unpl. In each case c. of becoming rather pl. after a while when it became diluted with saliva. There were times when Sns were neutral.

*Expt 56: P 3 (i.e.d. > ) (class A II).*

Both unpl., distinctly so, both P. I was not c. of difference of d. Difference of e. asserted itself only after a while. First only slightly more intense.

*Expt 57: O 6 (i.d. < ) (class A II).*

Both highly unpl., f.t. only slightly more unpl. in second, although Sn was much a 1, greater. There was no corresponding increase of f.t. in second Sn. The associations were ekphored already with the first.

*Expt 58: T 6 (d.i.e. > ) (class A II).*

Both unpl., first more so, owing to greater d., i. and e. Association of skin of hand being taken away which was also unpl., with second a "f. of relief" at shorter d.

*Expt 59: P 2 (i.d. < ) (class A II).*

Both painful unpl.; second decidedly more so (subject cried out). P. Sn and f.t. differed about equally in both Sns. P. seemed to be due to two things, viz. skin Sns and bone Sns.

*Expt 60: G 2 (1 drop and 3 drops) (class A II).*

Both pl., second more so. C. of second more extended and more intense.

*Expt 61: A 6 (d.i. < ) (class A II).*

First neutral f.t. Second rather unpl., jarring, then it became less unpl. I was thinking that it may be a bird.

*Expt 62: V 6 (d.i. < ) (class A II).*

No difference of f.t. Both neutral.

18/10/15.

*Expt 63: T 1 and 2 (suc. and sim.) (class A III).*

δ3? Suc.: Both pl., No. 2 was more pl., owing to being warmer and owing to greater capacity for tickling. Sim.: both pl., No. 2 again was more pl. Not certain whether f.t. were sim. or rapidly alternating.

*Expt 64: O 1 and 2 (suc. and sim.) (class A III).*

No. 1 pl. and No. 2 pl. in both orders of presenting. Simly, No. 1 appeared weaker as Sn, and f.t. was also weaker although still pl. No. 2 came into C. and continued unpl. Not c. of any f.t. existing simly, neither the Sns.

*Expt 65: A 1 and 2 (suc. and sim.) (class A III).*

No. 1 more pl. than No. 2 in the order 1, 2. In order 2, 1 I lost myself. When sounded together only c. of one tone which was pl.

*Expt 66: V 1 and 2 (suc. and sim.) (class A III).*

Both pl. in both orders, blue (No. 1) slightly more. On being questioned observer stated that he could say the f.t. of No. 1 was more pl. than that of No. 2. When presented simly: c. of both Sns simly, but only one f.t. of Pls. Probably due to fact that it was a pl. combination.

*Expt 67: T 2 and 6 (suc. and sim.) (class A III).*

No. 2 pl. in both cases. No. 6 was unpl. in both suc. cases, for two reasons, temperature and texture in each st. Sim.: pressure of No. 6 was not so great and was not great enough to be unpl., neither was No. 2 so pl. Uncertain about simultaneity or sequence.

*Expt 68: O 2 and 6 (suc. and sim.) (class A III).*

No. 2 unpl. first, No. 6 more unpl. In opposite direction No. 6 unpl., No. 2 was neutral, and when together there was only one f.t. which was unpl. Sn seemed to be a mixture. In addition there was an irritation when smelling in both cases.

Expt 69: **A** 2 and 6 (suc. and sim.) (class A III).

No. 2 pl., No. 6 unpl., f.t. of No. 2 was pl., so was that of No. 6 (can separate f.t. from  $\delta 4$ ? Sn). Sim.: on the whole pl., but at the same time there was something jarring, which varied. Not certain whether there was simultaneity.

Expt 70: **V** 2 and 6 (suc. and sim.) (class A III).

No. 2 was pl., No. 6 was slightly unpl. in both directions. Sim.: slight tendency to attend to No. 2. Much harder to say anything about f.t. which appeared much diminished.

19/10/15.

Expt 71: **T** 3 and 5 (suc. and sim.) (class A III).

No. 3 pl., No. 5 unpl. Analyzed first into thermal and tact. Sns. No. 5 unpl., scratching, becoming very unpl. Some slight P. No. 5 was also cooler which was unpl. too.

Expt 72: **O** 3 and 5 (suc. and sim.) (class A III).

$\delta 16 -$ . No. 3 pl., No. 5 unpl. in both directions. Sns were localized, f.t. seemed more extended, seemed to belong to me as subject. Easy to separate Sn and f.t. Sim.: f.t. was neutral to  $\alpha 4$ .  $\delta 12$ . unpl. Sn was not a new smell, it was a combination of the two, No. 5 dominating.

Expt 73: **A** 3 and 5 (suc. and sim.) (class A III).

$\delta 4$ . No. 3 pl., No. 5 unpl. in both directions, when sim. both f.t.s seemed to co-exist for longer period than alternating. This alternation depended upon attending to one Sn more than the other. After the st. had been repeated a number of times there seemed to  $\alpha 4$ . be fusion of the f.t. into a slightly pl. f.t. due, I think, to the complex sound formed by the two st.

21/10/15.

Expt 74: **G** 1 and 2 (suc.) (class A III).

$\alpha 2$ . First pl., second more pl. The longer time of second tended to make it more pl. beside  $\delta 16 -$ . the more pl. taste. Sn was localized, f.t. not.

Expt 75: **T** 1 and 6 (sim.) (class A III).

$\kappa 2$ . Tendency of attn to be directed to No. 6 alone which was unpl. No. 1 was so slight that I could not discover any f.t.

Expt 76: **O** 1 and 6 (suc.) (class A III).

No. 1 pl., No. 6 very unpl., then No. 6 very unpl. again, but then No. 1 only neutral.  $\delta 16 -$ . The smells were recognized. Sns localized in nostrils, f.t. concerns myself.

Expt 77: **A** 1 and 6 (sim. and suc.) (class A III).

No. 1 pl., No. 6 although louder was neutral. When sim. I wanted to attend to each Sn alternately, there was no f.t.

Expt 78: **V** 1 and 6 (sim. and suc.) (class A III).

No. 1 pl., No. 6 slightly unpl. in both directions; simly the combination was slightly pl., it was not the case as one dominating the other, there was only one complex. Fixed attn alternately on one and the other, but none seemed then pl.

Expt 79: **T** 2 and 3 (sim. and suc.) (class A III).

No. 2 was very pl. first, No. 3 neutral. Second time No. 3 slightly more pl. and No. 2 just a very little more pl. than No. 3. Sim.: Difference between the two Sns was so slight and between their f.t.s too, that I was only c. of one f.t. slightly pl. and it was only by alternately fixing my attn on each that I was able to conclude that No. 2 was slightly more pl. than No. 3.

Expt 80: **O** 2 and 3 (suc.) (class A III).

No. 2 unpl., No. 3 neutral. In opposite direction No. 3 neutral and No. 2 not so unpl. Yet still a little.

*Expt 81: A 2 and 3 (suc. and sim.) (class A III).*

No. 2 was pl., No. 3 in comparison not so pl., yet it was pl., the same in opposite  $\alpha 4.$  direction. Simly once it seemed like one complex sound of pl. f.t., then attn alternated, not c. of any alternation of f.t., it remained slightly pl.

*Expt 82: V 2 and 3 (sim. and suc.) (class A III).*

No. 2 slightly pl., also No. 3, but although the second Sn was stronger than the first, and although both were pl., I preferred the first. Sim.: I do not think there was a f.t.

*Expt 83: T 1 and 3 (sim. and suc.) (class A III).*

Nos. 1 and 3 both slightly pl., but No. 3 more pl. owing to its greater e. and greater  $\alpha 4.$  warmth in both directions. Sim.: First I had one Sn giving rise to one f.t., only by e. analysis I became aware and localized No. 3 on right hand owing to its greater e., etc. I could not discover two f.t.s, the f.t. of the Sn I attended to was pl.

*Expt 84: V 3 and 5 (sim. and suc.) (class A III).*

$\alpha 4.$  No. 3 pl., No. 5 slightly unpl. in both directions. Together there was a slight pl. f.t., due to combination, attn attracted by No. 3.

26/10/15.

*Expt 85: O 1 and 3 (suc.) (class A III).*

No. 1 very pl., first time. With No. 3 I hardly had any Sn and no f.t., both times. The second time No. 1 was also pl., but not so much as first time. The Sn seemed to differ not only in i. but also in quality.

*Expt 86: G 4 and 1 (sim.) (class A III).*

No. 4 was bitter and strong but I did not feel it much unpl. No. 1 was pl. and became  $\mu.$  still more so after a time. I was c. of the neutralizing action going on. F.t. became dis-  $\beta 4.$  tinctly more pl. after a time. There seemed to be a contrast effect due to No. 4. I cannot  $\delta 16.$  say anything about localization of f.

*Expt 87: P 1 and 2 (sim.) (class A III).*

Both unpl., No. 1 decidedly more so. I was c. of distinct difference of quality. No. 1 was prick and No. 2 was pressure on bone. No. 2 had e. I am not so sure about No. 1.  $\theta 4.$  It seemed to be a sort of pinching or piercing at a point. The f.t.s did not fuse, there seemed to be oscillations—f.t. of No. 1 predominated.

*Expt 88: T 5 and 6 (sim.) (class A III).*

First of all I had one f.t. which was unpl. and had automatically associated it with both hands. But later I was c. of the roughness, No. 5 being less than No. 6. There was  $\delta 11.$  oscillation of attn between the two Sns. The original f.t. seemed to continue on the whole.  $\delta 16 - .$  No tendency to localize the f.t. with the Sn.

*Expt 89: O 5 and 6 (suc.) (class A III).*

No. 5 was very unpl. No. 6 was also unpl., but it seemed to me less than it should owing to the effect of No. 5. I cannot say which was the more unpl. of the two in both directions of presentation. No. 6 ought to be more unpl. owing to the associations.

28/10/15.

*Expt 90: A 5 and 6 (suc.) (class A III).*

The first Sn, No. 5, was slightly pl., I think, and No. 6 unpl. The "piercing" noise  $\delta 15.$  of No. 6 jarred. I think there was possibly an association which caused No. 5 to be pl.

*Expt 91: V 5 and 6 (suc.) (class A III).*

No. 5 very slightly pl., No. 6 very slightly unpl. After looking at No. 5 for a while the  $\beta 3.$  idea of a sunset came up, this was also pl.

## Expt 92: T 1 and 5 (sim.) (class A III).

At start I had a slightly unpl. f.t., Sn No. 5 predominating. After a time f.t. was not unpl., about neutral. It was through eg. processes that I tried to analyze No. 1; intrinsically it gave no f.t., then I found on perceiving the smoothness of No. 1 that the f.t. was slightly pl. and at that time the f. of No. 5 seemed to have faded. I have not been  $\delta 4-$  able to discover two f.t.s at the same time.

## Expt 93: O 1 and 5 (suc.) (class A III).

No. 1 very pl., vague images of chocolate and chocolate shop and myself there. No. 5 was unpl. Immediately the st. was taken away I tried to recognize it. The pl. f.t. of first  $\delta 16-$  was more diffused over me and affected me more than second. The images of chocolate  $\wedge 1.$  and chocolate shop were pl., but I cannot say whether more or less than Sn. There was some oscillation at first between f.t.s of images and Sn, and there must have been a judgment. Sn No. 5 was unpl., but f.t. seemed to be connected with the nostrils. Tendency  $\wedge 1.$  to get away.

29/10/15.

## Expt 94: A 1 and 5 (suc.) (class A III).

$\wedge 1.$  No. 1 was quite pl., No. 5 slightly unpl. No. 1 aroused in me a tendency to activity,  $\beta 2.$  to go on with the scale. The f.t. due to this idea was pl.; in fact it seemed to fuse with the other f.t. and to determine it in part. The f.t. of No. 5 was very faint, the Sn occupied C.

## Expt 95: V 1 and 5 (suc.) (class A III).

$\delta 15.$  No. 1 was pl. and No. 5 was also pl., but less so. The f.t. of No. 5 seemed to increase after a time, possibly due to associations. There is something restful about No. 1.

## Expt 96: A 1 and 3 (sim.) (class A III).

F.t. was slightly pl. and fairly constant throughout, but there were one or two moments when the Sn due to No. 3 seemed to take up most of C. and I was aware of something  $\wedge 4.$  jarring which produced momentary unpl. f.s and this quickly vanished owing to my  $\alpha 4.$  endeavour to get passive again. The f.t. was not attached to any one note but to the complex. I was satisfied that I had followed instruction. This P<sub>re</sub> of the satisfaction followed with the satisfaction on the termination of the Sn. There was also an unpl. f.t. due to  $\beta 2.$  my failing momentarily to follow instructions, i.e. relinquishing the passive attde. This f.t. followed the unpl. f.t. due to jarring.

## Expt 97: V 1 and 3 (suc.) (class A III).

No. 1 was pl. I find it very hard to say which was more pl. Immediately on seeing  $\delta 7.$  st. No. 3 I had an idea that No. 1 was more pl., but on looking longer, f.t. of No. 3 became pl. I had this difficulty: Sn No. 1 was stronger than Sn No. 3, i.e. the saturation of st.  $\beta 4.$  No. 1 was greater than that of No. 3. The change in saturation on seeing No. 3 had an unpl. f.t. As this unpl. f.t. died away the pl. f.t. due to Sn No. 3 developed. I cannot say  $\delta 4-$  that there was any co-existence of the pl. and the unpl. f.t.s.

## Expt 98: T 1 and 4 (sim.) (class A III).

Sn No. 1 was very weak. Sn No. 4 dominated C. F.t. of No. 1 could not be discovered. F.t. of No. 4 was neutral on the average. At some points I experienced slight P. Sns which had slight unpl. f.t.s. As a whole f.t. was neutral.

## Expt 99: G 3 and 4 (suc.) (class A III).

Both unpl., but No. 3 was more so. At one point in Sn No. 4 I had a pl. f.t. momentarily.  $\mu.$  I thought I was vaguely c. of neutralizing action going on. Sn No. 3 was still present when Sn No. 4 was produced.

*Expt 100: T 2 and 5 (sim.) (class A III).*

Slight Unpls due to No. 5 which dominated C. and only at intervals was I c. of a slight pl. f.t. due to No. 2. This vanished at certain points owing to momentary P. Sns which were unpl. At the moments the P. Sns occurred no contact Sns were there.

2/11/15.

*Expt 101: O 2 and 5 (suc.) (class A III).*

No. 2 slightly unpl. but after a time I had a slight pl. f. owing to sweetness. No. 5 was more unpl. than No. 2. When the Plre came Unpre disappeared.

*Expt 102: A 2 and 5 (sim.) (class A III).*

α 4. Rapid oscillation of attn between Sns and also some fusion. The f.t. attached to each Sn was pl. The f.t. of the two fused Sns was also pl. It is only through analysis I could detect the two fundamental f.t.s in it.

*Expt 103: V 2 and 5 (suc.) (class A III).*

δ 7. Very slight unpl. f.t. on seeing No. 2 which rapidly gave place to neutral state. No. 5 very slightly pl. f. immediately on seeing, which increased somewhat as time went on. Vague associations of sky but this did not increase f.t.

4/11/15.

*Expt 104: T 3 and 6 (sim.) (class A III).*

Sns were sim., but I first experienced f.t. due to No. 6 which was unpl., then I experienced f.t. which was pl. due to No. 3 and at this time the Unpls of No. 6 was entirely gone, momentarily at any rate. Then there seemed to be a decrease of f.t., but the pl. f.t. seemed to persist while I was only c. of Sn No. 6 with no f.t. The two f.t.s I described alternated δ 4 - . but both were >, but especially the unpl. one. No co-existence at any time of two f.t.s.

*Expt 105: O 3 and 6 (suc.) (class A III).*

No. 3 was on the whole neutral in f.t. At some moments there seemed to be something unpl. No. 6 was highly unpl.

*Expt 106: A 3 and 6 (sim.) (class A III).*

δ 4 - . No. 3 was pl. and No. 6 was unpl. I never had two f.t.s at the same time. The Sn No. 6 came in jerks and whenever they came there was an unpl. f.t. and at those moments the pl. f.s due to No. 3 were completely gone but the pl. f.t. of No. 3 came back after each jar from No. 6. I had a pl. f. cut up by strongly marked unpl. f.t.s.

*Expt 107: V 3 and 6 (suc.) (class A III).*

F.t. of No. 3 was neutral. I had at certain times doubt whether it was not very slightly pl. No. 6 was slightly unpl.

*Expt 108: O 4 and 1 (suc.) (class A III).*

No. 4 very slightly unpl., but towards end I seemed to get used to it and it became δ 7. neutral. I had associations recognizing smell as Asafoetida. No. 1 was slightly pl. but I did not associate it with anything. I thought I had a slightly pl. f. momentarily when η 13. I found the second st. was not something unpl. This pl. f.t. preceded the f.t. due to Sn itself.

*Expt 109: A 1 and 4 (sim.) (class A III).*

I thought there was something unpl. due to No. 4 and a pl. f.t. due to No. 1, but after α 4. a time I was not c. of any unpl. f., but only of one slightly pl. f.t. which was due to the δ 4 - . compound expe. I never had the two f.t.s together, they alternated. I cannot say which came first.

*Expt 110: V 1 and 4 (suc.) (class A III).*

No. 1 was distinctly pl., certainly at the start. No. 4 was not so pl. as No. 1; in fact

δ 15. there was a momentarily unpl. f. with No. 4 (association of poisonous flower). On con-  
 δ 7. tinuing to look at it, it became neutral and slightly pl.

*Expt 111: G 3 and 2 (sim.) (class A III).*

First I had tact. wet Sns without f.t.s, then I had an unpl. f.t. due to No. 3 which seemed to monopolize my tongue, but after a time I had a slight pl. f.t. due to No. 2 which was sweet. Then I became c. of a slightly acid Sn which had a neutral or slightly pl. f.t. which δ 4 –. persisted. The two Sns were sim., but never the f.t.

*Expt 112: P 1 and 3 (sim.) (class A III).*

At first I had a tact. Sn which was slightly unpl., then I had a distinct unpl. f.t. which δ 5. δ 18. was at once attached to No. 3 which was now P. in my left hand. I was c. of slight pricking θ 1. Sn on my right hand at certain moments but the f.t. as far as I can judge was neutral. I recognized this as a P. Sn also.

11/11/15.

*Expt 113: T 4 and 5 (sim.) (class A III).*

Very slight apprehension on experiencing the st. which apprehension had a slightly unpl. f. I was c. at intervals of sharp pointed momentary Sns due to No. 5 which were slightly unpl. and which were distinctly localized at definite points on my hand. After α 4. that the Sns seemed to fuse qualitatively, though not as regards space, also I had only one f.t. which was only very slightly unpl. This fusion would probably have occurred sooner η 1. had it not been for the pricks of No. 5. Slight annoyance when I had the pricks.

*Expt 114: O 4 and 5 (suc.) (class A III).*

δ 7. There was a slight unpl. f. on sensing No. 4, but it became slightly pl. towards end, β 1. I recognised Asafoetida. No. 5 was at the beginning slightly unpl., then there was another η 8. f.t. which was unpl. due to the fear that it would be a worse smell. This gave place to doubt as to what it was. That state of doubt was a complex state. F.t. due to the st. δ 4 –. remained slightly unpl. I was at no time c. of two f.t.s co-existing.

*Expt 115: A 4 and 5 (sim.) (class A III).*

A very slight pl. f.t. from the start, then a little later there was another transitory α 4. pl. f.t. due to the perfect blending of the two sounds. I was c. of the two Sns but I had only one f.t. due to the complex. I was c. of an attde during the expt which was not quite passive.

*Expt 116: V 4 and 5 (suc.) (class A III).*

Immediately on seeing No. 4 there was a very slight unpl. f., but it gave way to a pl. δ 15. one (association of wall of a room of that col.). No. 5 was very slightly pl. from the start δ 15. and associations of sunset. I cannot say which was more pl., both were very slight. All associations had slightly pl. f.t.s. When the associations happened I was only c. of the δ 3 –. f.t. of those associations, they did not co-exist nor did they fuse with the f.t. of the Sn.

*Expt 117: T 2 and 4 (sim.) (class A III).*

Nos. 2 and 4 were pl., No. 2 more so. F.t. of No. 2 forced itself into predominance. There were one or two oscillations between Sns and also between their f.t., but it was very doubtful whether there was fusion at any time. Towards the end my passive attde was destroyed by change of movement of st.

*Expt 118: O 4 and 2 (suc.) (class A III).*

η 2. Very slight apprehension which was very slightly unpl. Momentary unpl. f.t. due to δ 7. β 1. No. 4, but it quickly changed into a pl. f.t. which continued, recognized Asafoetida. No. 2 was neutral for some time, when it was completely sensed it became slightly pl. δ 16 –. I localized the Sns in the nasal passage, but I do not localize the f.

*Expt 119: A 2 and 4 (suc.) (class A III).*

No. 2 was pl. No. 4 slightly unpl. to start. It became neutral later. No. 2 seemed to spread into space, No. 4 seemed to be at a point. I localized Sn in space, but not the f.t.

*Expt 120: V 2 and 4 (suc.) (class A III).*

δ 16-. No. 2 slightly pl., No. 4 slightly unpl. The Sns were localized, the f.t. seemed to be λ 1. within me. No. 2 was restful. No. 4 I had an idea that I would like to get away.

*Expt 121: T 3 and 4 (sim.) (class A III).*

η 2. There is a slight apprehension owing to No. 4. There was oscillation between the two Sns in C. and their f.t. F.t. No. 3 was pl. and No. 4 unpl. at the start, but it became then neutral. The Sns were accurately localized and I was c. of direction of my attn and a λ 1. tendency to incipient movements towards the stimulated place.

18/11/15.

*Expt 122: G 1 and 4 (sim.) (class A III).*

No. 1 was pl. and No. 4 only slightly unpl. First of all No. 4 was unpl. on account of its coldness and later it became unpl. owing to its taste. I was c. of the two Sns simly, δ 4-. δ 12, but the f.t. in the beginning oscillated between pl. and unpl., and then later the f.t. became δ 1. one, steady and slightly pl., and it was only later that the two Sns seemed to fuse.

*Expt 123: A 4 and 5 (sim.) (class A III).*

The two Sns co-existed nearly the whole time in C. except for momentary oscillations. δ 13. The f.t. of No. 4 was neutral and of No. 5 slightly unpl., so that my f.t. was unpl., the whole time, but the f.t. seemed to become more steady and fixed with the time. It was only by the oscillations that I could say that one was neutral and the other unpl. Also at these moments I was slightly c. of my attde, which was then not quite passive.

*Expt 124: T 4 and 6 (sim.) (class A III).*

At first two similar Sns, which were similar except for their local sign. With time the difference in local sign became much less pronounced and the f.t. was neutral throughout this time. Then, when movement began I had a P. Sn accompanied by an unpl. f.t. from No. 6 and the f.t. of No. 4 was slightly pl. but it was only momentarily pl., so that on the whole I had an unpl. f.t. due to No. 6 which was much more prominent than that of No. 4, both as to length of time and i. I was not c. of fusion of Sn or f.t.s and only for a short λ 1. time were the two Sns co-existent. I was also c. of kinesthetic Sns owing to my desire to δ 16-. get away from No. 6. The f.t.s were not localized.

22/11/15.

*Expt 125: T 4 and 6 (sim.) (class A III).*

I could attend to the two Sns without difficulty simly. The f.t. was unpl. of No. 6 and of No. 4 neutral. Or at times there was some Pls in No. 4, though very slight. I did not succeed in having more than one f.t. in C. The dominant f.t. was unpl. Even at one δ 5. moment when I directed my attn to No. 4 the f.t. was just as unpl. as before, viz. that δ 16-. due to No. 6. I could not localize any f.t.

*Expt 126: G 2 and 4 (sim.) (class A III).*

At first I had a slightly unpl. f.t. due to bitter taste which continued for some time. δ 5. Then I had the pl. f.t. due to the syrup. At that moment the unpl. f.t. was gone, although I was c. to some extent of the Sn No. 4. Then I had the unpl. f.t. again and then there a 4. seemed to be a mixture of the two Sns and a new f.t. due to this mixture which was only δ 16-. very slightly pl. It was sharp but not bitter. I could not localize any f.t.

*Expt 127: P 2 and 3 (sim.) (class A III).*

At first I had the slightly unpl. f.t. due to No. 3 and then I had another unpl. f.t. due to No. 2. Then later on I was c. of an unpl. f.t. and it was not localized either in the

right or left. In fact both Sns in C. were only marginal, but the f.t. was unpl., i.e. I felt  
 a 4. uncomfortable, due to stimuli which were not localized with accuracy, nor the one differentiated from the other except at points when either the one or the other became dominant. At that time the f.t. proper to that Sn came up.

*Expt 128: A 1 and V 1 (class A iv).*

I was only c. of the pl. f.t. due to the tuning-fork except that for a moment or two I thought the col. had a slightly pl. f.t. I find it very difficult to say whether the f.t. due  
 δ 3? to the fork persisted all the time. It may be possible that the two f.t.s co-existed but I should not like to say this.

*Expt 129: T 6 and O 6 (class A iv).*

Only smell unpl., the touch was neutral and this continued right through. No oscillations.

25/11/15.

*Expt 130: G 2 and P 2 (class A iv).*

At first pl. gust. Sn and then when I sensed the pressure the pl. f.t. vanished and there only remained the unpl. f.t. of the P. except for one moment when I had the pl. f.t. due to taste. At that moment the unpl. f.t. of the P. had gone and it immediately came back  
 δ 4-. when simly the pl. f.t. of taste vanished. There was never any co-existence. I could say  
 δ 16. this time the Unpls was here in my hand. The pl. f.t. of taste was less definitely localized in the mouth, it was more diffused.

*Expt 131: T 5 and A 6 (class A iv).*

δ 4-. Tact.: neutral or slightly pl. Aud.: slightly unpl. Not c. of having the two f.t.s co-existent, it was rather an alternation between them. The Sns co-existed intermittently. I could localize the Sns and at one instant I had a sharp P. and then I localized the Unpls  
 δ 16±. of the P. I did not succeed in localizing the f.t. of the noise.

*Expt 132: O 4 and V 3 (class A iv).*

Just at first I had for a short time an unpl. f.t. due to the smell whilst the f.t. of the  
 δ 7. col. was neutral. Then the smell became slightly pl. and I think the f.t. due to the col. became slightly pl., but the f.t. due to the col. was much weaker than that due to the smell.

I was not c. of any alternation between the two f.t.s for the most part, but on the other hand  
 δ 3. I was not c. of the f.t.s co-existing, but I conclude that they did from the stated fact of  
 δ 16. absence of alternation. The f.t. due to the smell was localized in the nostrils and the other one was to some extent with the col.

2/12/15.

*Expt 133: T 4 and G 4 (class A iv).*

The f.t. due to taste was slightly unpl. That due to tact. Sn was at the beginning slightly pl. The two f.t.s alternated. Later on the tact. became neutral and at the very end I had  
 δ 16. a sharp P. Sn due to a hair being pulled, this was unpl. The Unpls was localized in the hand, but I also referred it to myself. All through the expt I had only one f.t. at a time. At certain moments I was c. of a slightly unpl. f.t. which was not localized.

*Expt 134: A 4 and P 2 (class A iv).*

At the start I was c. of the two Sns, but I had no f.t. After a time I had a slightly unpl. f.t. due to the P. and this Unpls increased with the time and the more it increased the less became the aud. Sn. At certain moments the aud. Sn was only in marginal C. I was also c. of a state of doubt whether the aud. Sn was not a little pl. at times. The  
 δ 16. P. was localized quite distinctly in the hand and the aud. Sn was localized in space. The Unpls of P. was localized in the hand.

*Expt 135: O 2 and G 2 (class A iv).*

Again alternation of f.t.s. At first I had the pl. f.t. due to the gust. Sn which f.t. was localized on the tongue and at the same time I was e. of a diffuse f.t., but which was inseparably connected with the other. I look upon these as one f.t. When I perceived the olf. Sn I had an unpl. f.t. At that time the Pls of the taste was completely gone and I did not get it back until I had come to the end of my breath in inhaling. When I inhaled again my attn was drawn to the odour and I attended to the Sn itself and then found that it was not then unpl., but it became again unpl. when I adopted again the previous attde of attending to the f.t.s.

*Expt 136: V 1 and P 2 (class A iv).*

First very slightly pl. f.t. due to col. I was then e. of the two Sns, but the f.t. due to each became almost neutral. Further they seemed to merge into one f.t. which was not localized. Then I was e. of a P. Sn which had a slightly unpl. f.t., but the Sn of blue was always in C. and there was no f.t. attached to it. At no time was there co-existence of f.t. I localized the Unpre of the f.t. in my hand.

3/12/15.

*Expt 137: Stroking of palm of hand (class G).*

At first there was a Sn of contact which was neutral as regards f.t., then there was a little tickling Sn which had a slightly pl. f.t. in the hollow part of the palm and towards the end the Sn was again neutral in f.t. I was also e. of the movements across my hand, i.e. the sue. parts of the hand. The f.t. was localized. On a whole the expe was slightly pl.

*Expt 138: T 1 and V 1 (class A iv).*

Col. only produced a slightly pl. f.t. On experiencing the tact. Sn the f.t. of the col. vanished and I was only e. of the slightly pl. f.t. due to the stroking. The tact. f.t. was stronger than the vis. f.t. and it was also localized on the hand whereas the vis. f.t. was so slight that it had no definite localization. There was some swelling and ebbing of the f.t. of the tact. Sn in unison with the change in the Sn.

*Expt 139: A 5 and G 4 (class A iv).*

From the gust. st. I had first a cold Sn for a considerable time with no f.t. and then when the and. st. was introduced this also had no f.t. for some time. Then the gust. Sn developed and had a slightly unpl. f.t. and at certain points I was e. of the aud. Sn being unpl. due not to any subjective factors but due to the jarring in the Sn. I was not e. of the two f.t.s co-existing at any time but rather alternations between the two. At the end I became e. of a slightly unpl. f.t. due to the two Sns and which was not localized.

9/12/15.

*Expt 140: O 6 and P 1 (class A iv).*

3 - . The two f.t.s were unpl. I cannot say that they were co-existent at any time, but rather 16 ± . that they alternated. The prick Sn and its f.t. were more sharply localized than the olf. Sn and its f.t., although the latter were also localized fairly well. After a time there was a 4, an unpl. f. which was not localized, it seemed to be attached to the complex of the two 2. Sns. I could not discover any qualitative difference in the two f.t.s nor is it possible to say which was the more unpl.

*Expt 141: V 4 and G 3 (class A iv).*

7. The gust. Sn became a little unpl. after a moment or two, but it soon lost its force and became slightly pl. The f.t. due to the col. was almost neutral or very slightly pl., but it seemed to decrease still more. I had a very slightly pl. f. which, I think, was due to the complex, for the localization became much less marked. The two Sns co-existed, but 4 - . I cannot say that the f.s did so at any time. I was e. of alternations between the two f.t.s.

10/12/15.

*Expt 142: O 3 and A 2 (class A IV).*

F.t. of aud. Sn quite pl., that of olf. Sn only very slightly pl. I cannot say that they  $\delta 3-$ . were both present in C. simly, they alternated. Each time the f.t. changed to unpl. due  $\eta 1$ . to having come to the end of my inhalation and to the annoyane that the expt was  $\delta 16$ , thereby stopped. I localized the f.t. of the olf. Sn fairly distinctly in the nostrils. The aud. f.t. was only very slightly localized.

*Expt 143: T 3 and P 1 (class A IV).*

$\delta 16$ . At first I had a sharp P. Sn. The f.t. attached to it was unpl. and distinctly localized.  $\theta 4$ . At the same time the f.t. seemed to affect me as a whole. The f.t. due to the taet. Sn  $\delta 7 \& 4$ . was at first neutral. Later the velvety character had a pl. f.t. I was not c. of the f.t.s co-existing, but quite c. of the alternations between the two.

14/12/15.

*Expt 144: G 4 and P 1 (class A IV).*

$\theta 4$ . Both f.t.s decidedly unpl. The P. st. gave a tact.-P. complex whose f.t. was unpl.  $\delta 16$ . The f.t. was localized with its Sns, but I also had a diffuse f. which was also unpl. The gust. st. was taet., thermal and gust., but it was the gust. Sn alone that was unpl. This  $\delta 16 \& 3-$ . f.t. was also localized with its Sn, I cannot say whether the f.t.s co-existed.

16/12/15.

*Expt 145: T 6 and A 5 (class A IV).*

Noise became unpl. first. The rubbing was at the beginning neutral in f.t., but it  $\delta 5$ .  $\lambda 1$ . quickly became unpl. and so unpl. as to swamp the other f.t. I was c. of certain tendencies to movements due to the taet. Sn there was a slight tendency also to remove the hand.  $\delta 16$ . There were Sns of P. with tact. Sn. Both f.t.s were localized with their respective Sns,  $\delta 3-$ . the tact. the more clearly. F.t.s never co-existed.

*Expt 146: G 1 and 4 (sim.) (class E).*

Did not get f.t.s simly.

*Expt 147: A 6 and P 1 (class A IV).*

$\delta 3-$ . I had the two Sns quite distinctly simly. The f.t.s were both unpl., but never co- $\delta 16$ . existing. The f.t.s were localized with the Sns, but the P. was by far the most accurately  $\eta 2$ . localized. Sometimes I had a slight anxiety that some damage might be done. This was unpl. (I cannot make a statement as to any qualitative difference in the f.t.s.)

*Expt 148: T 6 and P 3 (class A IV).*

P. with unpl. f.t. The other was a tact. Sn of slightly unpl. f.t. At one or two moments  $\delta 3-$ . there were sharp P.s which caused a rise in the Unpls. The two f.t.s were not co-existent,  $\delta 16$ , but they were localized with the Sns. There is a qualitative difference between the P. Sn and the purely tact.

19/1/16.

*Expt 149: A 1 and V 1 (class A IV).*

$\delta 11$ . Both f.t.s were pl. and after a time I was c. only of one f.t. which was pl., and which seemed to be a fusion of the two. The localization of the latter was rather indefinite,  $\delta 16$ , except that at certain moments I was c. that part of the Pls was definitely localized with the col. At the beginning of expt my attn oscillated from one f.t. to the other. I am  $\delta 3$ ? uncertain whether I experienced the f.t.s simly during the first expt, whilst during the  $\delta 3-$ . repeat expt no co-existence was noticed. I could not discover any difference in the quality  $\epsilon 2$ . or even quantity of the two f.t.s.

28/1/16.

*Expt 150: A 1 and V 1 (class A IV).*

Both f.t.s were pl. and were present alternately at the start. Then later on I was only

δ11 & 16-. c. of one pl. f.t. which seemed to be a fusion of the two and at this time it was not localized.

At the beginning I don't know which of the two f.t.s was the greater, i.e. the more pl.,

δ16+. but they were distinctly localized, the one on the col. and the other also in space where the sound came from. But although these f.t.s were localized at definite points in space they also seemed to be diffuse.

*Expt 151: T 2 and O 1 (class A IV).*

The tact. f.t. was pl. and the olf. f.t. was only very slightly pl. owing to the weakness of the Sn. It was so weak that I experienced an unpl. f. in trying unsuccessfully to get a

γ 2. stronger smell by inhaling more vigorously and this unpl. f. tended to drive away the other f.s, but I was still c. of the pl. f.t. of the touch being marginal. The tact. and olf. f.t.s were

δ 16. localized in the hand and in the nostrils respectively and I think the unpl. f. was localized partly in the nostrils and partly in the chest and it was also partly diffuse. I think that the pl. f. due to the tact. st. and the unpl. f. due to unsuccessful effort to increase the

δ 4. smell and the accompanying bodily discomfort were simly co-existent in C.

31/1/16.

*Expt 152: T 2 and O 1 (class A IV).*

I had three distinct f.t.s: a pl. one due to the olf. Sn and a pl. one due to the tact., and an unpl. f.t. due to the inhaling too much. I think there were moments when all

δ 4 & 16. three f.t.s co-existed and each was localized one on the hand, one in the nostrils and one

δ 9. in the chest. The olf. Sn varied much in strength causing a corresponding variation in the f.t., but the tact. Sn and f.t. were fairly constant and also continuous.

*Expt 153: G 2 and P 3 (class A IV).*

The gust. Sn was quite pl. and the P. Sn was unpl. The Pls attained its maximum

δ 4 & 16. first, then for a time both f.t.s co-existed and each was definitely localized. Then later on

δ 5. the P. Sn became more unpl. and the pl. f.t. of the gust. Sn decreased, it was swamped

θ 4. by the Unpls of the P. Sn. At first the Pls of the gust. Sn was greater than the Unpls

of the P. Sn and this was reversed towards the end of the expt. In the middle of the expt

I could not make any quantitative comparison.

*Expt 154: T 6 and A 4 (class A IV).*

The tact. Sn was very unpl. I found it very difficult to say what the f.t. of the other was, about neutral, except at moments it may have been slightly unpl., but I think one

reason why it was difficult to make a statement on the f.t. of aud. Sn was that the f.t. of

δ 5. η 2. the tact. Sn was so strong. At moments I had in addition some apprehension, which was

unpl., that the skin might be cut.

*Expt 155: O 4 and V 4 (class A IV).*

Olf. f.t. unpl. When the attn is directed to the vis. Sn it is slightly pl., but when the

δ 5. two are attended to, then I am not c. of any f.t. of the vis. Sn, it seems to be swamped by

the other. Once or twice I had again the unpl. f.t. due to the inhaling and I also had a

β 1. pl. f.t. due to the satisfaction derived from the success of the effort of inhaling.

4/2/16.

*Expt 156: T 4 and G 3 (class A IV).*

The gust. at first slightly pl., it had a sharp acid taste. Then as the acid taste became

stronger it turned to unpl. The tact. was very slightly unpl., at times almost neutral,

η 2. but I had at times a slight apprehension that it might become unpl. and damage the skin.

I know my attn oscillated between the Sns so that I cannot say whether the f.s were co-

δ 4. existent, but at points they seemed to have been co-existent. The f.t. of the gust. Sn was

more unpl. than that of the tact. Sn.

*Expt 157: A 4 and P 3 (class A IV).*

The P. Sn was very unpl. I can only say the aud. Sn was neutral in this expt. I thought  
 ⑥ 15? the aud. Sn became unpl. owing to its association with the P. Sn, being part of the whole  
 total expe. I was c. that the P. could not stop unless the aud. Sn also stopped. There  
 ⑥ 16. was nothing unpl. in the sound itself. The f.t. of the P. was definitely localized.

*Expt 158: O 3 and G 1 (class A IV).*

⑥ 16 & 3. Both Sns were pl., both f.t.s definitely localized and they seemed to be co-existent. The gust. Sn f.t. was more pl. than the f.t. of the olf. Sn but I cannot say how much. This may be partly due to the fact that I knew what the gust. was, whilst I was doubtful as to what the olf. might turn out to be.

*Expt 159: T 1 and V 2 (class A IV).*

Both f.t.s were pl., the vis. one only very slightly. I could analyze the tact. Sn into some of its constituents, it was warm, smooth and tickling and each of the components was pl. There was also something soothing in the movement. The tact. f.t. was much  
 ⑥ 16. more strongly localized than the other.

*Expt 160: O 6 and P 2 (class A IV).*

⑥ 16 & 3. Both highly unpl., both f.t.s being definitely localized and both co-existent. There  
 ⑥ 13. was one factor which made me think the tact. more unpl., viz. that I could, if necessary,  
 endure the olf. at less inconvenience than the other. It may be that the P. seemed to be  
 ⑥ 15. <, but not the olf. Sn. I think the association of the olf. Sn heightened its Unpls.

7/2/16.

*Expt 161: V 2 and P 3 (class A IV).*

⑥ 5. I attended first to the vis. st. which was slightly pl. But when the P. st. was introduced the vis. Sn almost at once became neutral and the P. Sn with its unpl. f.t. dominated  
 ⑥ 16. C. The P. Sn gradually increased in i. with time, both the Sn and the f.t. were localized. I cannot say anything about the first two seconds when the P. was introduced whether the f.t.s co-existed, that of the P. being so strong.

*Expt 162: A 5 and G 3 (class A IV).*

The gust. Sn was exceedingly unpl. The aud. Sn was neutral on the whole except that once or twice it had a momentary unpl. f. due to some irregularity in the scratching.  
 ⑥ 15. At other times it had a slightly pl. f.t., partly due to associations, but what these were exactly I don't know. The aud. f.t. was at all times so faint compared to that of the  
 ⑥ 16. gust. Sn. F.t. of gust. was accurately localized. The expt did not enable me to say anything about the co-existence of the f.t.s.

*Expt 163: O 6 and P 2 (class A IV).*

⑥ 16. Both f.t.s unpl. Both f.t.s accurately localized. At the start the olf. f.t. was more  
 ⑥ 2. unpl. than that of the P. Sn. Then later on the P. Sn was more unpl. than the olf. Whether this was due to an increase of the P. Sn or to the blunting of the olf. sense organ I can't  
 ⑥ 3. say. Both f.t.s were co-existent during most of the time.

*Expt 164: O 3 and A 1 (class A IV).*

⑥ 16. Both f.t.s were pl., both were accurately localized and for the most part they were  
 ⑥ 3. co-existent. I cannot say which was the stronger. The olf. Sn died off with the time and also its f.t. There was a momentary unpl. f.t. at the start due to an initial discord when the fork first touched the box, but it immediately gave way to a pl. f.t.

*Expt 165: O 4 and G 2 (class A IV).*

I had the gust. Sn first which was pl., then I had the olf. which was unpl. and which  
 ⑥ 5. completely swamped the pl. f.t. of the gust. Sn. Until this olf. f.t. ebbed I was not c. of the gust. Sn or its f.t. All that was left was a tact. Sn in the mouth, also cold, but the gust.

quality had completely vanished. They came back at the end when the olf. Sn had diminished in i. Not once did I get co-existence of the f.t.s. Both f.t.s were accurately localized and both were fairly strong in i.

*Expt 166: V 1 and T 2 (class A IV).*

Both pl. The vis. f.t. was very steady in character; the tact. was undulatory, but always dominant. Both were accurately localized and were co-existent, but the tact. was more dominant than the other. Once or twice I could pick out the tickling Sn which made the tact. Sn to have its maximum Pls.

8/2/16.

*Expt 167: V 2 and P 3 (class A IV).*

I had no f.t. with the vis. Sn. The P. Sn was unpl. and became more unpl. with the time. It was accurately localized (f.t. of P.). I remember asking myself whether the vis. st. affected me in any way and thought that any col. would in this complex be equally non-aff. The P. Sn appeared to increase together with its unpl. f.t. as time went on.

*Expt 168: V 4 and G 3 (class A IV).*

At first I was not c. of any f.t. in connection with the gust. Sn as C. was filled up with doubt and curiosity as to what it was. Then f.t. became slightly pl., but when I experienced the full force of the taste it became slight unpl. Towards the end, as the Sn weakened, it again became slightly pl. The vis. Sn was very slightly pl. but there were moments when it vanished owing to the fact that my attn was taken up with the other. I was only c. of the co-existence of f.t. towards the end when both were pl. The gust. f.t.s were localized. The vis. f.t. less accurately localized.

*Expt 169: T 3 and P 2 (class A IV).*

The P. Sn was unpl. and the tact. pl. I am almost certain that for the greater part of the expt both were co-existent and localized, but towards the end the unpl. f.t. became dominant and I was c. at moments of only one unpl. f.t., probably due to the total situation.

*Expt 170: G 1 and P 1 (class A IV).*

The gust. Sn was pl. and the P. Sn neutral to slightly unpl. for a long time. Then P. Sn became quite unpl. and the gust. began to diminish in Pls. The expt was stopped just when I seemed to want to change the situation, i.e. the net result of the total situation was unpl. although when I directed my attn to the gust. Sn this was pl. again. Both f.t.s were localized. Very little simultaneity, if any.

15/2/16.

*Special Attde: "Live the expce, etc."*

*Expt 171: T 1 (class B 1).*

At the beginning of the expt my attde was one of expectation and analyzing the presentation. I was c. of the tact. Sn and the direction of movement which was localized. I had a vis. image of the shaving brush. The f.t. was very slightly pl., but most of C. was filled with the sensational aspect rather than the f.t., which I considered as a bye-product. Such as it was, i.e. the f.t., it was localized. I do not think that my expce was greatly modified by the different instructions.

*Expt 172: O 2 (class B 1).*

The Sn was attended to and there was a slight doubt as to whether it was pl. or not. There was a process of judgment or deliberation going on and I decided it was slightly pl., although at times there were very slight associations of unpl. smells, but the quality of the Sn was not such as to make the f.t. pl. to any appreciable extent. I had a vis. image of the nostrils, also a slightly unpl. f. at the end of the inhalation and this was localized

in the chest. I was c. that my attde was different, but I do not think the expce itself differed greatly from that under previous instructions.

18/2/16.

*Expt 173: A 3 and V 3 (class B 1).*

My first acquaintance with both Sns gave a pl. f. The vis. f.t. was localized on the paper and the localization of the aud. f.t. was diffused, indefinite. After a time, I think, δ 16. the aud. Sn became slightly unpl., I got tired of it, and the unpl. f.t. was localized in the head. I was c. of alternations of the f.t. in C. It was not an active direction of the attn δ 3. on my part that caused it, so that I cannot speak of the co-existence of the f.t. at any time. I think the f. of the vis. Sn was more pl. than that of the aud. Sn, this may be due to the uniformity of the f. of the vis. Sn whilst the f. of the aud. changed during expt. The expce was not markedly different from former experiences under the old instructions.

*Expt 174: T 1 and O 1 (class B 1).*

δ 3. Both f.s were pl. and both were co-existent for a considerable time. It seemed to me the off. f.t. was clearer and more dominant in C. than its Sn, whilst with the tact. st. δ 16. both the Sn and the f. were clear. Both Sns were localized, and the f.s with their respective Sns. I had a slightly unpl. f. at the end of the inhalation attached to the Sns derived from the expansion of the thorax.

*Expt 175: G 4 and P 3 (class B 1).*

δ 6. The gust. Sn had a slightly pl. f.t. at the start, but it became unpl. with the full development of the Sn. I was able to analyze this complex expce and thought to myself that certain undesirable unpl. Sns (e.g. nausea) were present. The other f.t., i.e. of the P. Sn, was unpl. although an incipient pl. f.t. accompanied the preceding tact. Sn, both f.s were δ 16 & 4. localized and both co-existed.

24/2/16.

*Expt with hot and cold water.*

*Expt 176: (class E).*

μ. The cold Sn was distinctly unpl., then when I put my right hand into the hot water δ 4. there seemed to be a slight diminution of the unpl. cold Sn, but only for a few seconds, δ 4. then it came on with increased force. After a time the two f.t.s were in C. co-existent. δ 9. I noticed a fairly regular periodicity in sudden increases of the cold Sn and its f.t. fluctuated correspondingly. I also noticed the same periodicity in the warmth Sns, but the sudden increases were here of comparatively small magnitude. I cannot say what relation there was between the phases of the two Sns. I do not think that it was a direction of the attn to the cold Sn that caused the periodical maxima, but rather the other way, these maxima attracted the attn to them. The i. of the f.t. of the unpl. cold Sn was greater than the i. of the pl. warmth Sn.

1/3/16.

*Expt on Co-existence of f.*

*Expt 177: G 2 and A 5 (class E).*

At certain points the aud. Sn became quite unpl. and at these points the pl. f.t. of the δ 5. gust. Sns was completely swamped. There were also moments when the gust. Sn f.t. swamped the aud. Sn f.t., but I was c. of an actual diminution in the aud. Sn. There were δ 4. moments when the two f.t.s appeared to co-exist in a vague way. I am not quite certain of it. It seemed an aid for simultaneity when I adopted as much as possible a passive attde, as was consistent with keeping the two expces in C. together.

*Expt 178: G 4 and V 1 (class E).*

δ 5. At first the gust. Sn was slightly unpl. and at that time the vis. Sn f. was swamped. Then when the two Sns were steady I consciously compared the f.t., but found it exceedingly difficult owing to there being pl. component in the gust. expce, so at no point could δ 4 -.

I say that I had an unpl. f. co-existing with a pl. one. Now the vis. f.t. was in the C., now the pl. factor in the gust. f.

7/3/16.

*Expt 179: P 1 and T 5 (class E).*

η 2. The P. Sn was unpl., the tact. was neutral. At the start there was a state of apprehension with an unpl. f.t. as I thought that the tact. st. might scratch my hand. I could δ 3. distinguish this f.t. from that due to the P. in C. and they co-existed for some moments. Later the only f.t. present was that due to the P. Sn.

9/3/16.

*Expt 180: O 2 and A 3 (class E).*

δ 9. The aud. Sn f.t. was very slightly pl. The olf. Sn f.t. was fluctuating, it changed not only in i. but also in quality; the third time it was unpl. only. The reason for this was that there was something sickly about the Sn. Sometimes the f.t. was pl. especially when I turned the attn to the Sn and tried to analyze it. Each time I began inhalation there was η 2. some Unpls which may have been due to some apprehension. As a rule the f.s were not δ 4. co-existing but there may have been moments when this was the case.

*Expt 181: T 3 and G 2 (class E).*

δ 3. Both the gust. and the tact. Sns had pl. f.t.s and both were co-existent practically δ 16. the whole time and both were localized with their Sns. I cannot say which of the two f.t.s was the stronger. They existed separately and did not fuse.

*Expt 182: A 5 and P 3 (class E).*

Both aud. and P. Sns had unpl. f.t.s, the one attached to the P. being the stronger, δ 16 & 3. both were localized with the Sns and both were co-existent except at moments when the λ 1. attn was attracted more by the one or the other. I was c. of muscular Sns at the moment when the aud. Sn had its maximum amount of Unpls; these were in the forehead principally.

*Expt 183: V 1 and A 4 (class E).*

δ 16. Both the first aud. Sn and the vis. Sn had pl. f.t.s, both were localized with the Sn δ 3, and for a considerable time they were separate and co-existent, but towards the end they δ 11. seemed to fuse into one pl. f.t. I cannot say which of the two was the stronger. When the aud. st. was given a second time it had an unpl. f.t. and I thought of two causes which might produce it (1) that I got tired of the sound, or (2) that the sound was not the same as before (it was given with another whistle). In the second expt I did not get co-existence or fusion.

*Expt 184: T 4 and O 4 (class E).*

δ 3. In the first application both the tact. and the olf. Sns were unpl., both f.t.s co-existed for a part of the time. I experienced difficulty in introspecting owing to the variations in the tact. Sn and to the rapid decrease in the i. of the olf. Sn. The second and third applications gave a much weaker olf. Sn so that f.t. was much reduced and the f.t. due to the tact. Sn became only very slightly unpl., often it was neutral, I having got used to it. I cannot say anything about co-existence in the second and third applications.

*Expt 185: O 3 and V 3 (class E).*

η 2. The vis. Sn had a pl. f.t. There was a slight apprehension on sensing the olf. st., but a moment later it became slightly pl., but it was much less pl. than the vis. I cannot say δ 3? anything about their co-existence. As a rule the vis. Sn f.t. was more prominent and it was only by giving less attn to the vis. Sn that I became aware of the olf. Sn being slightly pl. In the second application the olf. Sn was neutral. I never get in these expts from any olf. Sn anything but a slightly pl. tone.

21/3/16.

*Expt 186: T 3 eg. (class B II).*

I had a faint vis. image of the dark red velvet, a slight Sn of warmth. I was c. of a tact. Sn localized on the skin and I directed my attn to the whole of the expe. What was in the focus were the qualities of the complex of expe. This expe was perceived as a circular movement and it was slightly pl. My attde was critical throughout.

*Expt 187: T 3 aff. (class B II).*

There was a slightly pl. f. caused by the circular movement as such, then a slightly unpl. f. owing to its initial coldness but the coldness soon gave way to slight warmth which was pl. There was slight disappointment when it came to an end.

*Expt 188: T 3 cn. (class B II).*

¶ 1. There was a tendency to desire the continuation of the Sn. I found the Sn pl., but the circular movement and the warmth did not come anything so prominently into C. ¶ 1. as before, as my attn was directed to keeping the cn. attde.

23/3/16.

*Expt 189: A 5 aff. (class B II).*

¶ 10. Sn slightly unpl., not quite steadily unpl., but fluctuating in degree. I had a vague idea of what the st. was and its localization, although I did not attend to these things.

¶ 1. The cn. attde became prominent for a time as I was c. of the tendency to shut the eyes owing to its being unpl. I think I succeeded in adopting the aff. attde. Not only was there the tendency to close the eyes but my attn was drawn to the cn. (Reproduced introspection.)

*Expt 190: A 5 cn. (class B II).*

There was a slight tendency to close the eyes more tightly and at times there was a ¶ 1. tendency to knit the brows and very slight tendency to clench the teeth. My attn was taken up wholly by this. By retrospection I can say that the st. was recognized and that ¶ 10. it was slightly unpl., again with fluctuations. (The first part was introspective.)

*Expt 191: A 5 eg. (class B II).*

I had very faint images and ideas of more or less circular motion and also of a piece of wood making this movement on a cigar box. I was also c. of the fluctuations in the i. of the Sn and again I was c. of a slight closing the eyes more tightly, but I did not attend to the Unpls during the expt, but by retrospection it was clearly unpl.

31/3/16.

*Expt 192: O 3 cn. (class B II).*

I was active in attempting to get the full effect of the odour and had a vague image of my chest gradually expanding. There was very little aff. element present in the expe. Such as it was, it was slightly pl. The eg. element was merely the sensing of the st. and trying to compare it with former Sn of musk. I was not quite satisfied that it came up to expectation although I was familiar with it as a smell, but not as musk. The Sn was localized in the nostrils. The second time the Sn and the f. were both weaker and towards the end I was dissatisfied with the inhaling and I had Sns of pressure in the chest wall (Mainly introspective.)

*Expt 193: O 3 eg. (class B II).*

I almost involuntarily tried to compare the Sn with previous expt. I was familiar with it, but there was also an element of doubt whether it was the same or not. It was hardly strong enough to give any f.t. except very slightly. I determined to sense it, if possible, more fully at the second application, but instead of that I was hardly c. of off.

¶ 3. Sn at all. I was c. of the expansion of the chest wall and the accompanying f.t. which was slightly unpl. (Mainly introspective.)

*Expt 194: O 3 aff. (class B II).*

It was slight but definitely pl. I did not sense it as musk or any other known smell, but merely as a smell that was pl. I was c. of the gradual expansion of the chest wall and also of the Sn of slight pressure at the end which was slightly unpl. The second  $\eta 4$ . application was again weak. I was not c. of any Pls, but I was c. of a disappointment,  $\alpha 3$ . that it was not stronger and I had also the Unpls due to the tightness in the chest at the end. (Mainly introspective.)

*Expt 195: V 6 eg. (15 sees) (class B II).*

I was not c. of any aff. element present, I was c. that I moved the eyes during the exposure time. This was due to my wishing to search for something to say afterwards and to the apparent barrenness of my introspection. At the start for several seconds I was only c. of sensing a particular kind of red and that seemed to be all that was to be said about it, but later I thought to myself that it was of the same shade as a fox-glove and noticed also the slight unevenness of the surface. (All introspective except statement about cause of eye movements.)

*Expt 196: V 6 en. (15 secs) (class B II).*

I made a determination to adopt the en. attde and at the signal started to stare at the st., but that seemed to be the end of the process. I had sensed a particular kind of red and I did not seem to have anything else to report. This went on for some time and then I thought I would move the eyes to another part of the paper, but nothing happened.  $\eta 5$ . The Sn had no f.t. I remember the Unpls owing to the barrenness of my introspection. (Introspective mostly.)

*Expt 197: V 6 aff. (15 sees) (class B II).*

At the beginning there was no aff. element present. Then I thought it became slightly pl. and I had a vague image of a wall paper. Then I thought to myself that I remembered that I called this slightly unpl., in the preliminary expts and I tried again to adopt the aff. attde to decide the question whether it was pl. or unpl., but failed; the col. was quite neutral. (Introspective.)

3/4, 16.

*Expt 198: G 4 aff. (class B II).*

I tried to adopt the aff. attde from the start, but at the beginning the eg. elements were prominent. I remember myself trying to analyze the taste. Gradually the bitterness asserted itself with a slightly unpl. f.t. and tendency to move the tongue. This slight  $\lambda 1$ .  $\delta 6$ . Unpls passed away and a slight pl. f.t. took its place, owing no doubt to the decrease in the i. of the Sn due to dilution and also to the increased flow of saliva. This slightly pl. f. continued for some time. (Introspective except the statement about the causes of the Pls.)

*Expt 199: G 4 eg. (class B II).*

For some time I only had a Sn of slight cold and no gust. Sn. Then the gust. Sn came rather suddenly when I swallowed and it seemed located some considerable distance down the throat. This I recognized as the pure taste of quinine. It was slightly unpl.  $\beta 3$ . after I sensed it, but there was also at the same time some Pls as I knew it was quinine and I had no objection to it and knew that the unpl. effects would soon pass away which they did giving place to a sharp gust. Sn of slight pl. f.t. I did not notice any en. element in the expe. I remember making slight movements of the tongue and lips. (Mainly introspective.)

*Expt 200: G 4 en. (class B II).*

$\lambda 1$ . There was a tendency to produce saliva in order to weaken the Sn and also a tendency to swallow which would also weaken it. I remember saying to myself: "Swallowing is the

proper thing to do, as it is quinine." The eg. and aff. elements were both very vague in C. The eg. elements were simply that I sensed it as quinine and that the expe was similar to previous ones. The aff. elements were that it was slightly unpl. owing to being too bitter. (Mostly introspective.)

*Expt 201: P 1 en. (class B II).*

λ 1. It was unpl. The eg. elements of the Sn did hardly come into C. for I knew exactly what the st. was and consequently I did not trouble about the eg. elements. The en. activity was rather marked but internal. There was an innervation of the whole body. I could also distinguish a slight state of doubt as to what movement would be most effective to get rid of the Sn. No movement seemed satisfactory, as I could not lower my hand. (Mostly introspective.)

*Expt 202: aff. P 1 (class B II).*

It was quite unpl. and appeared to be more at a point than before. As to the eg. element my expe was that at the very start it was blunter than the prick appeared to be the next instant. It appeared to pierce the skin and become suddenly very unpl. I had even the vague image of a P. spot and thought to myself that you had succeeded in touching a λ 1. P. spot. All the en. elements I noticed were the setting of the whole body. (Introspective.)

*Expt 203: P 1 eg. (class B II).*

I was fully e. of your approaching my hand and I had an idea that you were making a to and fro motion, partly from evidence of indirect vision and from the Sn experienced. Suddenly the skin appeared to be pierced and the Sn became strongly unpl. and at once I had the tendency to lift the other hand to give a signal to remove the st. I had this thought during the expe that my eg. introspection was barren and that I did not notice any marked eg. elements present except that it was a P. Sn. (Introspective.)

6/4/16.

*Expt 204: T 6 aff. (class B II).*

I was e. of slight anxiety at Sn start in case the st. might be harmful. But on carefully λ 2. analyzing it I found that it was not so unpl. as I expected, but there was still some anxiety present, that if you continued rubbing it might take the skin away. It was a tact. Sn, no λ 1. P. Sn. I was e. of very slight innervations of the facial muscles. There was slight satis- β 4. faction on stopping. As a whole the f.t. of the expe was unpl. (Entirely introspective.)

*Expt 205: T 6 eg. (class B II).*

The st. was perceived as a rough surface. I experienced some warmth probably due to the friction. The roughness on the skin had an unpl. f.t. which persisted throughout the expt. I had a vague vis. image of the surface of the skin being harrowed. The col. of the sand, yellowish, being present also. There was again some slight anxiety. The muscular tendencies were too vague to be described. The f.s were quite as great as in preceding expt. (Mainly introspective.)

*Expt 206: T 6 en. (class B II).*

λ 1. There was a slight tendency to move the hand away at certain moments, viz. at those when I thought the st. was going to be harmful. There was no moment at which there was a P. Sn, only tact. The eg. element was simply recognition of the st. being similar to the previous ones. The f.s were very weak and faint. In comparison with the others this introspection seemed quite barren and I seemed to have hardly anything to say about the eg. and aff. elements. (Wholly introspective.)

*Expt 207: O 4 eg. (class B II).*

The Sn was for a moment unrecognized, but almost immediately afterwards I recognized it as Asafoetida and I seemed surprised that it did not produce an unpl. f.t. The

cn. element was simply an effort to inhale as much as possible to get the full effect of the Sn. (Introspective wholly.)

*Expt 208: O 4 aff. (class B II).*

At first I thought it might be slightly unpl., but quite soon I said to myself it is not unpl., it is neutral. I carefully tried to analyze my f.s and could detect no unpl. factors. The Sn was perceived as that due to Asafoetida. Very slight cn. in inhaling. (Introspective.)

*Expt 209: O 4 cn. (class B II).*

I made a determination to adopt the cn. attde. The reason why I made this determination was that I thought I should have to concentrate my attn very much before I could notice anything, this my past expe had taught me. I found no further cn. than these. During the expt the expe seemed quite a barren one; I could only say that I perceived the st. as Asafoetida and the f.s were neutral. (Introspective.)

10/4/16.

*Expt 210: V 1 aff. (15 secs) (class B II).*

The expe was definitely pl. as regards f.t. and I had faint associations, such as blue sky, etc. It continued pl. right through the exposure. I noticed there were very small white spots on the paper. I sensed it as blue. On the cn. side I only noticed that it attracted my attn and there was a desire to look at it as long as I could and I did not want you to say "Stop" too soon. (Introspective.)

*Expt 211: V 1 cn (15 secs) (class B II).*

It certainly makes a difference what attde you take. The adopting of the cn. attde κ 1. meant a certain strain or concentration and the f.t. of the Sn was only very very vaguely in C. By retrospection I can say it was very slightly pl. I noticed again the few spots on the paper and I sensed the paper as blue. I was a bit disappointed with the lack of cn. factors in the expe. This may account for the strain already indicated. (Mainly introspective.)

*Expt 212: V 1 eg. (15 secs) (class B II).*

I sensed it as blue and the expe was familiar to me. My attn was drawn to a white spot on the paper. The expe was only slightly pl. The only cn. element was my activity in attempting to pick out eg. elements and again I was not satisfied owing to the comparative lack of these. For most of the time the aff. elements were wanting altogether as regards the Sn itself, but there was present a slight Unpls due to the lack of the eg. elements. (Introspective.)

*Expt 213: G 2 cn. (2 drops) (class B II).*

There was some cn. in trying to present the most suitable part of the tongue to receive the st. I was c. that the dose was a small one, that it was slightly cold and that the Sn was pl. in character. I was also c. of an increased flow of saliva which caused reflex movements of the tongue, but there was very little cn. activity. My expe was that I enjoyed the situation. (Introspective.)

*Expt 214: G 2 eg. (2 drops) (class B II).*

I was again c. of the small dose and that it was cold to the touch. It was some time before the gust. Sn asserted itself. It was quite pl. when it did, causing an immediate flow of saliva and reflex movements of the tongue as before. I noticed that towards the end there was a tendency to move the lips. The expe was very similar to that of the preceding expt. (Introspective.)

*Expt 215: G 2 aff. (2 drops) (class B II).*

I noticed the dose was slightly bigger also cold and that there was again some delay before the gust. Sn attained its maximum. Then it was quite pl. throughout. This time

I noticed some cn. in the form of trying to obtain the maximum Sn by appropriate movements of the tongue, in other words, to accelerate the time for the Sn to attain its maximum. There were again movements of the lips towards the end. Speaking generally the expe was again similar to the two previous ones. The aff. elements seemed fairly constant. (Introspective.)

11/4/16.

*Expt 216: P 3 eg. (10 secs) (class B II).*

There was a slight curiosit at the start, as to what it would be like. This gave place to slight apprehension when I saw you were going to apply the st. suddenly. I said to myself I shall bear the Unpls as long as I can and then determined to note all the eg. elements I could. I sensed a P. Sn and also deep pressure. (Introspective.)

*Expt 217: P 3 cn. (10 secs) (class B II).*

There was a slight tendency to keep the body stiff, I found no other cn. activities. I found Sn unpl., but not uniformly so. Especially at those times when I noticed the eg. element was the f.t. absent. I had a vague vis. image of the exact part pinched and of the position of the forceps. I remember saying to myself the pinch is not so great as in preceding expt. (Introspective.)

*Expt 218: P 3 aff. (10 secs) (class B II).*

The first thing I sensed was the sudden application of the st. I sensed it as a P. Sn which was unpl. I made a determination to adopt the aff. attde and to live the expe. At one point the expe reminded me of the Unpls which is obtained when placing a limb in ice-cold water. I remember no cn. elements. I was c. of slight variations of i. of Sn. There was slight satisfaction and relaxation when st. was removed. When I made the determination to adopt the aff. attde I found myself a moment or two later trying to analyze the Sn, so I am doubtful whether I succeeded in adopting the aff. attde. (Introspective, except last statement.)

*Expt 219: A 1 cn. (class B II).*

I found the expe pl. There was no c. cn. activity, but the Pls of the Sn seemed to attract my attn and to make me desire to continue in the same position. The st. was immediately sensed as a pl. aud. Sn; this was marginal. C. was mainly taken up by the aff. part. At the start I was expecting an unpl. scratching st. (Introspective.)

*Expt 220: A 1 aff. (class B II).*

There was a slight Unpls at the start due to some character of the vibration, but when this died away the Sn had a pl. f.t. for some time. Towards the end again it seemed to contain an unpl. element, probably due to some associations. I tried to make out what these associations were, but the expt ended before I had made up my mind, but I had a vague idea of the tolling of a bell. I remember comparing it to the previous Sn and found it not so pl. I was not c. of any cn. element. (Introspective.)

*Expt 221: A 1 eg. (class B II).*

It was immediately sensed as a pl. aud. Sn. I was c. of its being louder than in previous expts and to contain no jarring elements. I also noticed how it died away. Again I was not c. of any cn. activity, for I found no effort required to concentrate my attn on the st. The Pls did not continue so great throughout. It seemed to decrease, though in looking back I find no direct relation between decrease of i. of Sn and decrease of f.t. (Mainly introspective.)

## IV. RESULTS.

Having obtained the protocols I carefully perused them and noted all statements that appeared to me to have any reference to "Feeling," directly or indirectly. Similar statements I classed together and, for the sake of perspicuity, classes having some common relation were put together into groups.

I thus obtained the following analytical tables. They do not lay any claim to exhaustiveness nor to a thoroughgoing division. Cross-classification could not be avoided, but that does not vitiate their usefulness.

The letters *W*, *X*, *Y*, *Z* refer as before to the observers designated by them.

The numbers indicate the experiments.

*Bis* means that a second statement of the same nature was made in the experiment of the foregoing number.

+ behind an experiment-number indicates that the statement is affirmative or positive.

— that the statement is negative.

## ANALYSIS OF PROTOCOLS.

## (a) SENSATIONAL FEELING-ELEMENTS.

1. *Intensity of sensational content.*

(*W*) 2, 16, 31, 33, 34, 38 *bis*, 44, 48, 51, 54, 56, 61, 62, 76, 79, 83, 103, 121, 127, 128 *bis*, 132.

(*X*) 2, 113.

(*Y*) 149.

(*Z*) 57.

2. *Other attributes of sensational content.*

(*W*) 39, 48 *bis*, 53, 54, 55, 62, 65, 71 *bis*, 75, 77, 89, 125.

(*X*) 11, 17, 41, 43, 48, 58, 62, 78, 81, 84, 119, 122, 126.

(*Y*) 150 (rhythm), 151 (do.), 153 (do.), 155 (do.).

(*Z*) 38, 39, 41, 42, 43, 48, 53, 74.

3. *Organic sensations.*

(*W*) 43, 51, 52, 53, 59, 60, 61, 65, 66, 69, 77, 78, 86, 98, 103, 106, 107, 109, 111 *bis*, 112, 114, 115, 119, 120, 124, 125, 126, 128 *bis*, 129, 133 *bis*, 134, 139, 143, 144, 164, 166, 172, 174, 175, 178.

(*X*) 5, 79, 99, 103, 118.

(*Y*) 12, 38, 41, 44, 45, 47, 48, 50, 54, 55, 58, 62, 65, 66, 69, 70, 71, 78, 90, 96, 121, 130, 138, 145, 153.

(*Z*) 193, 194.

4. *Fused Sensations or Sensation-complexes.*

(*W*) 14, 15, 73, 74, 93, 115, 122, 123, 130, 153.

(*X*) 53, 75, 86, 89, 105, 119, 120.

(*Y*) 75.

(*Z*) 72, 73, 81, 83, 84, 96, 102, 109, 113, 115, 126, 127, 140, 141.

## (β) IDEATIONAL FEELING-ELEMENTS.

1. *Recognition, Realisation.*

(W) 1, 33, 51, 153, 155 –, 165, 176 –.  
 (X) 45, 68, 120 –, 171.  
 (Z) 114, 118, 155.

2. *Attitude, Situation, etc.*

(W) 4, 7, 11, 68, 69, 72, 81 *bis*, 119, 130, 138, 157, 160, 161, 162, 163, 164, 166, 168, 185.  
 (X) 27, 51, 52 *bis*, 53, 56, 98, 107, 110, 129.  
 (Z) 96 *bis*, 169, 170.

3. *Thoughts, Ideas, etc.*

(W) 3, 4, 5, 17, 30, 44, 45, 57, 58, 59, 70, 77, 81, 142, 159, 162, 163.  
 (X) 49, 62, 86, 102, 116, 122, 125, 128.  
 (Z) 91, 94, 199.

4. *Comparison, Contrast, Change and Relief.*

(W) 20, 37, 41, 50, 58, 64, 65, 66, 68, 83 *bis*, 87, 101, 103, 104, 106 *bis*, 113, 129, 133, 144 *bis*, 160 *bis*.  
 (X) 2, 40, 53, 67, 73, 77, 78, 90, 161, 181.  
 (Y) 71, 88, 121, 137, 166, 168, 170, 177, 178, 183, 184, 185.  
 (Z) 58, 86, 97, 176, 204.

5. *Valuation.*

(W) 70, 125, 133.

## (γ) CONATIONAL FEELING-ELEMENTS.

1. *Tension, Strain, Adaptation, Distraction, Expectancy* (see κ 1 and 3).

(W) 1, 5, 7, 8, 21, 22, 25, 34, 36, 38, 164, 167, 168, 181.  
 (X) 34.  
 (Y) 162.

2. *Movements (incipient), Effort, etc.* (also see κ 1 and 3).

(W) 46, 49, 63, 72 –, 106, 114, 126, 138, 148, 150, 160.  
 (X) 117, 119, 130, 135, 138, 145.  
 (Z) 151.

## (δ) MODES OF EXISTENCE OF FEELING-ELEMENTS.

1. *Rise of Feeling-elements before or after rise of Cognitive Content.*

(W) 1.  
 (X) 171.  
 (Y) 24, 36.  
 (Z) 122.

2. *Continuation of Feeling-elements after cessation of Cognitive Content.*

(W) 32, 44.  
 (X) 73.

3. *Co-existence of similar Feeling-elements.*

(W) 50, 60, 61, 63, 65, 71, 78, 80, 84, 85, 88, 91, 94, 96, 98, 101, 105, 107, 110, 111, 112, 114, 115, 116, 118, 120, 124, 126, 129, 133, 163.  
 (X) 49(?), 60(?), 63, 76, 79, 83, 85, 86 –, 89, 90, 94(?), 106, 109(?), 114 –, 116, 117, 118 –, 119, 122 –, 123 –, 124, 138(?), 142.

(Y) 41(?), 44-, 45-, 59-, 62(?) 79-, 80-, 87, 91, 93, 112(?), 114, 117, 118, 120, 129-, 130, 132, 139, 144, 146, 177.

(Z) 33(?) 63(?) 116-, 128(?) 132, 139-, 140-, 142-, 144-, 145-, 147-, 148-, 149(?) *bis*-, 158, 160, 163, 164, 166, 168, 173, 174, 179, 181, 182, 183, 184, 185.

4. *Co-existence of opposite Feeling-elements.*

(W) 5, 27, 28, 37, 53, 55, 58, 59, 60 *bis*, 63, 65, 67, 71, 74, 75, 76, 79 *bis*, 83 *bis*, 88, 92, 93, 97, 103, 104, 106, 107, 112, 121, 127, 129, 144, 162, 164.

(X) 29-, 44(?), 45(?), 60(?), 62-, 70-, 74, 78, 91(?), 93, 100, 105-, 107-, 115-, 125-, 126-, 127(?), 133, 136, 139, 141(?) 144.

(Y) 42-, 53-, 55-, 56-, 57-, 60-, 61-, 64-, 70-, 74-, 77-, 82, 89-, 95, 97, 110, 115, 119, 121, 122 *bis*, 123, 125, 127, 128, 131-, 134-, 135, 140, 147, 149.

(Z) 69(?), 73, 92-, 97-, 104-, 106-, 109-, 111-, 114-, 122-, 130-, 131-, 141-, 143-, 151, 152, 153, 156, 165-, 169, 170(?), 175, 176, 177, 178-, 180-.

5. *One Feeling-element destroys another.*

(W) 67, 110, 113.

(X) 76, 96, 135, 144, 167.

(Y) 47, 54, 124, 149, 158.

(Z) 125, 126, 145, 153, 154, 155, 161, 165, 169, 177, 178.

6. *Change of Feeling-element with changing Cognitive Content.*

(W) 13, 16, 21, 29, 32, 33, 37, 40, 49 *bis*, 65, 69, 110, 121, 128, 149.

(X) 57, 124.

(Y) 2, 13, 16, 23, 102, 159.

(Z) 168, 175, 198.

7. *Change of Feeling-element with constant Cognitive Content.*

(W) 11, 17, 18, 19, 41, 43, 47, 48, 50, 51, 52, 57, 60, 61, 62 *bis*, 68, 71, 81, 87 *bis*, 92, 112, 120, 130, 131, 138, 139, 142, 143.

(X) 1, 22, 31, 41, 44, 54, 68, 69, 80, 104, 105, 109, 158.

(Y) 9, 22, 25, 34, 38, 55, 71, 88, 98, 101, 109, 113, 131, 146, 156, 166.

(Z) 97, 103, 108, 110, 114, 118, 132, 141, 143, 170.

8. *Constancy of Feeling-element with changing Cognitive Content.*

(W) 15, 102, 109, 119, 142, 148, 156.

(X) 29.

9. *Fluctuation of Feeling-element with fluctuation of Cognitive Content* (see  $\epsilon$  3).

(W) 25, 55, 67, 71, 74, 75, 78, 80, 82, 84, 92, 93, 95, 96, 97, 99, 100, 103, 104, 105, 107, 110, 111, 114, 117, 119, 121, 123, 124, 129, 133, 161.

(X) 50, 53.

(Y) 64, 68, 70, 78, 161, 167.

(Z) 138, 152, 176, 180.

10. *Fluctuation of Feeling-element with non-fluctuating Cognitive Content.*

(W) 27, 42, 77, 86, 114, 145.

(X) 114, 117, 124.

(Y) 139, 147, 157, 158.

(Z) 189, 190.

11. *Fusion of similar Feeling-elements.*

(W) 60, 65, 80, 82, 86, 93, 94, 98, 101, 110 *bis*, 116, 163.

(X) 25, 49, 55, 75, 79, 108, 121.

(Y) 29, 45, 47, 50, 54, 75, 90, 96 *bis*, 133, 136, 137, 138, 143.

(Z) 88, 149, 150, 183.

12. *Fusion of opposite Feeling-elements with neutralisation.*
  - (W) 38, 39, 118.
  - (X) 97.
  - (Z) 72, 122, 136.
13. *Fusion of opposite Feeling-elements without neutralisation.*
  - (W) 79, 119.
  - (X) 17, 53, 115, 117.
  - (Z) 123.
14. *Dependence of Feeling-elements on Cognitive Content.*
  - (W) 151.
  - (X) 63, 64, 109, 114.
15. *Transference of Feeling-elements (e.g. association, etc.).*
  - (W) 62, 69 bis, 70 bis, 73, 89, 109, 147, 166.
  - (X) 15, 28, 39, 44, 73, 114, 144.
  - (Y) 18, 20, 21, 38, 111, 116, 128.
  - (Z) 10, 29, 90, 95, 110, 116 bis, 157, 160, 162, 220.
16. *Localisation of Feeling-elements.*
  - (W) 59, 60, 65, 67, 71, 72, 75, 78, 79, 80-, 82±, 83, 84, 85, 88, 90, 91, 92, 93, 94±, 95, 96, 97, 98 bis-, 99, 100, 101-, 102, 103, 104±, 105, 106±, 107, 110±, 111±, 112, 114, 121±, 124, 125, 129, 132, 133±, 148.
  - (X) 31, 46, 59, 61, 63, 64, 65, 66, 67, 68, 69, 70, 72, 73, 74, 76, 77, 80, 81±, 82, 83, 84, 85, 86 bis, 87, 88, 89, 90, 92, 93, 94, 95, 105, 106, 107, 114, 115, 116, 117, 118, 119, 121, 122, 123, 124, 125, 128, 145.
  - (Y) 64, 66 bis, 67-, 68, 69, 70-, 71-, 72, 73±, 76, 79, 80, 82, 87, 88-, 90-, 91, 93, 95-, 96-, 97, 100-, 101-, 102-, 104±, 109-, 110-, 112, 114, 115, 117, 119, 120-, 121±, 122, 129±, 130± bis, 132±, 133-, 134, 135, 136, 137-, 138±, 139±, 140, 142±, 143, 145±, 146, 148±, 149, 152, 181, 185.
  - (Z) 72-, 74-, 76-, 86(?), 88-, 93- bis, 118-, 119-, 120-, 124-, 125-, 126-, 130, 131±, 132, 133, 134, 135, 136, 137, 138, 140, 142, 143, 144 bis, 145, 147, 148, 149, 150 bis, 151, 152, 153, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 181, 182, 183.
17. *Similar Feeling-elements distinguished one from another.*
  - (W) 172.
  - (X) 46, 55, 60, 84, 122, 145.
  - (Y) 179
18. *Feeling-element recognised before recognition of its cognitive concomitant.*
  - (W) 60, 70.
  - (Z) 112.
19. *Feeling-element more prominent in consciousness than its cognitive concomitant.*
  - (W) 160.
20. *Neutral or Transition Point from one Feeling-element to the opposite one.*
  - (Y) 55, 61, 181.

(ε) ATTRIBUTES, ETC. OF FEELING-ELEMENTS.

1. *Modality.*
  - (X) 64, 65, 66, 68, 99.
2. *Qualities* (see δ 3 and 17).
  - (W) 46, 105, 106, 107, 111, 112, 115, 116, 124, 126.

(X) 63, 64, 65, 66, 67, 68, 81, 82, 95, 96, 101, 105, 106, 110, 111, 116, 122, 123, 125.  
 (Y) 43, 64, 91, 120.  
 (Z) 140, 149.

3. *Intensity* (see § 9 and 10).

(W) 22, 72, 90, 91, 100, 103 *bis*, 104, 119, 123, 125, 129, 132, 133.  
 (X) 57, 68, 92, 109, 113.  
 (Y) 172, 173.

(ζ) MOODS.

1. *Mood and organic sensations.*

(W) 3, 7, 21, 31, 32, 65, 66, 80, 95, 109, 110, 111, 118, 120, 128, 158, 175, 178.  
 (X) 95.

2. *Mood outlasting cognitive content producing it.*

(W) 110.  
 (X) 95, 96.

3. *Feeling-element of Mood distinguished from Feeling-element of Cognitive Content.*

(W) 31-, 38-, 65±, 95+, 110±, 152+, 163-, 164+, 173+.  
 (X) 95+, 96-, 97+.

4. *Mood produced by (fusion of) Feeling-elements of Cognitive Content.*

(W) 109, 112, 147, 163.  
 (X) 121, 123, 124.

5. *Mood influences Feeling-elements of Cognitive Content, or vice versa.*

(W) 110, 129, 163.  
 (X) 97, 98.

(η) EMOTIONAL PROCESSES.

1. *Anger, Annoyance.*

(W) 26, 41, 50, 56, 101, 113, 115, 122, 141, 150, 151, 154, 168, 169, 170.  
 (Y) 21, 148, 160, 176, 180.  
 (Z) 113, 142.

2. *Apprehension and Anxiety.*

(W) 26, 59, 126.  
 (X) 26, 119.  
 (Y) 155.  
 (Z) 118, 121, 147, 154, 156, 179, 180, 185, 204.

3. *Boredom.*

(W) 31.

4. *Disappointment.*

(W) 31, 33, 38, 54, 76, 79, 131, 144, 166, 168, 176.  
 (X) 26, 45, 47, 51.  
 (Y) 34.  
 (Z) 38, 194.

5. *Discontent.*

(W) 143, 144.  
 (Z) 196.

6. *Disgust.*

(W) 55, 70, 72, 110, 116, 121, 127, 142, 145, 146, 147, 149, 150, 160, 161.  
 (X) 9, 23, 39, 43, 123, 173.

7. *Excitement, Exhilaration.*  
(W) 21, 73, 77, 139, 154, 169, 170.  
(X) 38, 92, 102.
8. *Fear.*  
(W) 1, 50, 56, 117, 139, 151, 169, 170, 174, 175.  
(X) 23, 24.  
(Z) 114.
9. *Irritation.*  
(W) 41, 50, 101, 118, 119, 124, 137, 139, 154, 156, 166, 168.  
(X) 45.
10. *Repugnance and Aversion.*  
(W) 108.  
(X) 28.
11. *Resentment.*  
(Y) 160.
12. *Resignation.*  
(W) 59.
13. *Surprise.*  
(W) 29, 54, 80, 126, 130, 138, 139, 142, 153, 168.  
(X) 2, 18, 49, 190, 193.  
(Z) 108.
14. *Undefined Emotion.*  
(W) 165.
15. *Wonder.*  
(W) 139.  
(X) 57.

(θ) PAIN.

1. *Pain pleasant or neutral.*  
(W) 6, 87, 94, 111, 122.  
(X) 6, 35, 36, 67, 102(?), 116, 166, 167.  
(Y) 168.  
(Z) 112.
2. *Pain less unpleasant than other Cognitive Content.*  
(W) 45, 114, 115, 132.  
(X) 26, 35, 94, 96, 101, 109.  
(Y) 146.  
(Z) 163.
3. *Pain a special modality of Sensation.*  
(W) 117.  
(X) 109, 110, 111.  
(Y) 85, 106, 123, 126, 146.
4. *Pain distinguished from its Feeling-elements.*  
(W) 114.  
(X) 94, 111.  
(Y) 6, 24-, 27-, 37, 83, 84, 107-, 118±, 122, 126.  
(Z) 37, 59, 87, 143, 144, 153.

5. *Pain distinguished from contact or Pressure Sensations.*
  - (W) 58, 59, 75, 88, 98, 101, 104, 107, 114, 117, 171.
  - (X) 24, 56, 58, 82, 105, 109, 110, 111, 113, 116.
  - (Y) 57, 60, 83, 84, 86, 106, 107, 118, 123, 126, 134, 135, 143, 149, 165, 166, 167, 183, 184.
  - (Z) 112, 216.
6. *Intensity of Unpleasure rises more rapidly than the intensity of the Pain sensation to which it belongs.*
  - (X) 113.
  - (Y) 167 - .

(i) MEMORY AND IMAGES.

1. *Feeling-elements of memory-image.*
  - (W) 5, 9, 29, 67, 81, 134, 135.
  - (X) 137, 140, 143, 145, 146, 189, 191, 195.
  - (Y) 11, 43, 96, 110, 111, 138, 144, 159, 177, 179, (186/189).
  - (Z) 93.
2. *Memory-image of Feeling-elements.*
  - (W) 134, 135, (182, 188).
  - (X) 137, 140, 143, 145, 146, (189 195).
  - (Y) 192 198.

(κ) ATTENTION.

1. *Influence of attention on Feeling-elements (see γ 1 and 2).*
  - (W) 4, 13, 66, 84, 89, 103, 132, 145, 148, 159, 160, 164, (172, 181).
  - (X) 56, 72, 82, 88, 90, 93, 114, 126 bis, 139, 150, 151, 155, 156, (183/188).
  - (Y) 38, 41, 43, 44, 55, 62, 151.
  - (Z) 135, 188, 211, 217.
2. *Influence of Feeling-elements on attention.*
  - (X) 32, 85, 104, 126, 134.
  - (Y) 151.
  - (Z) 75, 219.
3. *Feeling-elements of attention (see γ 1 and 2).*
  - (W) 159.
  - (X) 130, 135.
4. *Disturbance of, or interference with, attention.*
  - (W) 3, 7, 31, 130, 158.
  - (X) 84.
  - (Z) 96.
5. *Attention and Mood.*
  - (W) 173, 175, 178.

(λ) CONATIVE TENDENCIES.

1. *Conative tendencies resulting from Feeling-elements (sphinctic effort, etc.).*
  - (W) 44, 56, 64, 72, 86, 87, 98, 100, 106, 107, 119, 120, 121, 126 bis, 129, 132, 140, 142, 146, 148, 150, 151, 156, 157, 160, 169, 184.
  - (X) 8, 9, 10, 25, 27, 28, 39, 47, 49, 50, 52 bis, 56, 68, 69, 71, 73, 105, 107, 113, 116, 117, 119, 122, 129, 130, 131, 134, 157, 158, 161, 167, 171, 172, 173, 180±, 181, 182.

(Y) 16, 19, 27, 29, 45, 46, 50, 57, 58, 60, 65, 78, 83, 84, 94, 98, 101, 105, 109, 110, 113, 126, 136, 137, 146, 149, 150, 167, 174, 175, 176, 180, 181, 183, 184, 185.

(Z) 36, 93, 120, 121, 124, 145, 182, 188, 189, 190, 198, 200, 201, 202, 204, 206, 215, 219.

2. *Influence of Conation on Feeling-elements* (see  $\gamma$  1 and 2, and  $\kappa$  1).

(X) 4, 18, 23.

3. *Conative tendencies determining judgment respecting strength of Feeling-elements.*

(Y) 94, 101.

(Z) 30, 160.

( $\mu$ ) COMPENSATION (see  $\delta$  4 and 5).

(W) 103, 110, 178.

(X) 3, 81, 114, 119, 126(?).

(Y) 110, 119, 137, 143.

(Z) 86, 99, 176.

The first group contains statements concerning "Sensational Feelings," i.e. statements about the feeling-elements attached to sensations (as far as sensations can be abstracted from perceptual experiences) and the first class deals with statements

a 1. RESPECTING FEELING-ELEMENTS AS AFFECTED BY THE INTENSITY OF ITS SENSATION.

Most of these statements (27 altogether) are by observer *W*, viz. 23, observer *X* has 2 and observers *Y* and *Z* have 1 statement each. 11 times the feeling-elements are attached to olfactory sensations, 4 times to auditory, 3 times each to painful and to gustatory sensations, whilst 1 only concerns each a visual and a tactile sensation.

The conclusions to be drawn from these observations may be stated as follows:

(1) *A feeling tone may be attached to the intensity of a sensation quā intensity.* This with olfactory sensations seems to be the case with low intensity, e.g. "Ple resided... partly in the idea of its faintness and fleeting character" (*W* 44), and "the faintness of the Sn itself seemed to be pl." (*W* 54). Further examples are *W* 2, 16, 79; *X* 2. There is one case of a visual sensation where "it was particularly the brightness of the Sn which seemed pl." (*W* 51), also *W* 48 and 62, whilst in *W* 128 the Unpleasure of the gustatory sensation "seemed to be connected with its faintness and indeterminateness" and in *W* 34 "the i. of the tone became irritating."

(2) *The low intensity of a sensation may give rise to Unpleasure in the form of disappointment.* This occurred to observer *W*; twice with olfactory sensations (*W* 33 and 76) and once with an auditory sensation (*W* 31).

(3) *Increase in the intensity of sensation may be accompanied by a change in the quality of the feeling-element.* E.g. "Sn seemed weak and f.t. was unpl. As Sn became stronger f.t. changed, and became markedly pl." (W 38), and "the smell returned, passing through an initial phase of Plre, but as the Sn became more intense becoming definitely unpl." (W 121). Also Y 149.

(4) *Increase in the intensity of a sensation may be accompanied by an increase in the intensity of the feeling-element, either pari passu or at a different rate.* E.g. "At one point when the (aud.) Sn became intense the Unpre increased with it and became very marked" (W 61),—"the Unpls corresponded closely to the i. of the P. Sn" (W 103),—"Increase of Unpls decidedly greater than the increase of i. of P. Sn" (X 113), and "f.t. only slightly more unpl. in second (olf.) Sn, although Sn was much greater; there was no corresponding increase in f.t." (Z 57). Further examples are W 56, 83, 127 and 132.

#### a 2. RESPECTING FEELING-ELEMENTS ATTACHED TO OTHER ATTRIBUTES OF SENSATION.

This group is somewhat heterogeneous for it contains besides the statements about feeling-elements of *Duration* also statements about feeling-elements of *Sensation-Complexes* and *Secondary Qualities, etc.*, such as are described by terms like "delicate," "rough," "stimulating," etc.

The more important of these statements are probably those respecting the *Duration* of a sensation. There are four statements, all by observer Z, to the effect that the duration had *no* influence on the feeling-tone: one auditory (Z 38), one tactile (Z 41), and two visual (Z 39 and 42). There are two statements ascribing the feeling-tone to the shortness of the sensation, but it is at once evident that they do not mean the same thing. In the one, X 58, it is really not the short duration, quâ duration, that is unpleasant, but rather the thought of the inability to study the sensation and its feeling-tone during the short duration. In the second statement (Z 43) it is obvious too, that it is not the duration that carries the Unpleasure. The other statements are more explicit. Thus: "Its Unpls (i.e. of **P** 3) in itself was never great, but the d. of the st. became increasingly unpl. I could distinguish the immediate Unpls of the P. itself from the Unpls of its d." (X 122). "After a short time the Unpls of the cold returned and intensified, but that seemed to be due to the continuation of the st. rather than to any contrast with the warmth Sn" (X 126). Again, "First st. (i.e. **A** 3) more pl. owing to d.

rather than difference in i." (Z 53), and "The longer time of second st. (i.e. **G** 2) tended to make it more pl. beside the more pl. taste" (Z 74).

Hence we can conclude that

(5) *A feeling-element may be attached to the duration of a sensation, quā duration.*

There are four statements about *rhythm*, all by observer *Y*, which I have thought proper to include here, viz. *Y* 150, 151, 153 and 155. The two former experiments were with tactile stimuli and the two latter ones with auditory. In all cases was the rhythm pleasant, although the auditory sensations themselves were unpleasant. This allows us to conclude that

(6) *The feeling-element of a rhythm may be pleasant although the rhythmically recurring sensations may be unpleasant.*

The remaining statements appear of less interest and it will suffice to enumerate them. There are four statements about the *brightness* of visual sensations, as distinguished from colour, all pleasant, viz. *X* 17, 62, 78, and *Z* 48. The *impurity* of a colour is unpleasant (*X* 48), so is the *washiness* (*W* 48 and 77). Another time it is *crude and vulgar* (*W* 48), or the *glare* and *dazzle* are unpleasant (*X* 11 and 41), so is *want of saturation* (*W* 62) and *hot and fiery* character of a visual sensation (*W* 39). Of olfactory sensations a *new character* is unpleasant (*X* 43), of another the *delicacy* is pleasant (*W* 54). Once a gustatory sensation is pleasant owing to its *piquancy* (*W* 55), another time to its *stimulating* character (*X* 81). A tactile sensation is pleasant because it is *rough and bracing* or unpleasant on account of its *sliminess* (*W* 71); another time the *rough* quality is unpleasant, whilst the *bracing* quality is pleasant (*W* 75) and in *W* 125 the *rough* character is unpleasant also. An auditory sensation is pleasant on account of its *loudness, clearness and reposefulness* (*W* 53), in *W* 65 the *reposeful* character is pleasant. *Roughness* makes an auditory sensation unpleasant (*W* 89) and so does *thinness* (*X* 119). With two simultaneous auditory sensations there is the statement: "I could distinguish...the variation of the Unpls of No. 5 according as some factors of Sn No. 5 harmonized or were discordant with Sn No. 1" (*X* 84).

### a 3. RESPECTING FEELING-ELEMENTS AND ORGANIC SENSATIONS.

Visceral and muscular sensations I am counting here as organic sensations.

Apparently great individual differences obtain, for whilst there are statements concerning 47 and 27 stimuli respectively by observers *W*

and *Y*, there are only 7 and 2 respectively by observers *X* and *Z*. Taking observers *W* and *Y* another remarkable individual difference is to be noted, for with observer *W* the organic sensation feeling-elements are 27 times pleasant and 16 times unpleasant, 4 being neutral; with observer *Y* no pleasant organic sensation feeling-element has been recorded at all. In one there was no definite statement, two were neutral, and 24 times they were unpleasant. A third point to be noted is that with observer *W* the organic sensations are mostly in conjunction with visual, tactile and auditory sensations; with observer *Y* they are almost entirely confined to auditory and olfactory sensations. Lastly it may be observed that with pain organic sensations have only been recorded twice and that with observer *W*.

It is interesting to ascertain how the feeling-elements of the organic sensations compare with the feeling-elements of the stimulus-sensations. The table on the next page gives an account of this showing likewise the distribution among the various stimuli as well as among the observers.

It is shown here that in 65 out of the 80 cases the feeling-element of the organic sensations is of the same quality as the feeling-element of the stimulus-sensations. In six cases the organic sensations have no feeling-element, i.e. they are neutral. Then there are seven cases where it is recorded the stimulus-sensation was pleasant whilst the organic sensation was unpleasant and two cases with neutral stimulus-sensation and unpleasant organic sensations.

The seven cases where the feeling-elements of the stimulus-sensation and the organic sensations respectively are of opposite quality are in the following experiments: *W* 124, 166; *X* 5; *Y* 38, 54, 66, 138. If the protocols are consulted it is found that in experiment *W* 124 the statement is most uncertain, viz. "the olf. (Sn) was perhaps on the whole slightly more pl., though from time to time it seemed to contain slightly unpl. elements. It is possible that these elements were really not olf. in nature, but of the nature of very faint nausea." It is after all merely a surmise that the unpleasant element is due to organic sensations, viz. nausea, hence this statement ought not to be included as evidence. In experiment *W* 166 the organic sensations were "muscle and cutaneous Sns from the forehead caused by wrinkles. These Sns were unpl., but the Unpls seemed closely associated with that of the difficulty about the attde." Here then really the organic sensations are connected with the difficulty of the attitude, which is unpleasant also, and not with stimulus sensation. Therefore this statement has to count with those where the feeling-elements of organic sensations and stimulus sensations

Quality of feeling- element of org. and st. Sns	Distribution of statements among Modalities of Stimulus Sensations							Total
	visual	tact.	aud.	P.	gust.	olf.	thermal	
St. { both org. { pl.	W 10 X 2 Y 10 Z —	8 — — —	4 — — —	— — — —	3 — — —	1 — — —	1 — — —	27 3 30 —
St. { both org. { unpl.	W — X 3 Y 3 Z —	— — — —	7 8 15 —	1 — 1 —	3 — 5 —	3 — 11 —	— — — —	14 1 20 35
St. pl. org. neutral	— — — —	— — — —	— — — —	— — — —	— — — —	— 1 — —	— 1 — —	— 1 — —
St. unpl. org. neutral	— — — —	W 2 X 2 Y 2 Z —	1 — 1 —	1 — 1 —	— — — —	— 1 — —	— 1 — —	4 1 5
St. pl. org. unpl.	— — — —	— — — —	W — X 4 Y 4 Z —	— — — —	1 — 2 —	1 — 1 —	— — — —	2 1 4 7
St. unpl. org. pl.	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —
St. neutral org. unpl.	— — — —	— — — —	— — — —	— — — —	— — — —	W — X 2 Y 2 Z 2	— — — 2	— — — 2
St. neutral org. pl.	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —
Total	W 10 X 2 Y 3 Z —	10 — — —	12 12 — —	2 24 — —	7 — — —	5 — 9 2	1 — 18 —	46 5 26 2

are of the same quality. In the remaining five protocols nothing warrants modifying the classification.

The two experiments where according to above table the feeling-element of the stimulus-sensation was neutral and that of the organic sensations unpleasant are experiments Z 193 and 194. If the protocols are consulted it will be found that there is no feeling-element to the olfactory stimulus sensations, because these are too faint, being hardly able to be sensed at all, which gives rise, as is explicitly stated in experiment 194, to disappointment. The disappointment is unpleasant

and so are the organic sensations due to the futile expansion of the chest. Therefore these two statements also must be counted where the two feeling-elements are of the same quality.

Thus revised there are then, out of a total of 79 cases, 68 (over 86 per cent.) where the feeling-elements of the organic sensations and of some factor of the experience which they accompany are of the same quality. There are six cases (under 8 per cent.) where there is no feeling-element to the organic sensations, and five cases (not quite 6 per cent.) where the feeling-element of the organic sensations is of the opposite quality to that of the experience which the organic sensations accompany.

These results may be summed up as follows:

(7) *Great individual differences obtain respecting the experiencing of organic sensations as accompaniments to sensory or other experiences.*

(8) *Whenerer organic sensations accompany an experience that carries a feeling-element, then in the vast majority of cases the feeling-element of these organic sensations is of the same quality as that of the experience they accompany* (see result 80).

#### a 4. RESPECTING FEELING-ELEMENTS ATTACHED TO FUSED SENSATIONS OR SENSATION-COMPLEXES.

The statements which come under this heading may be divided according as they concern a synthesis or an analysis of the cognitive content. A further sub-division is possible giving the following four classes:

(i) *Fusion or combination of cognitive components with some algebraic summation of feeling-elements.*

E.g. In *W* 14 there are coolness which is perceptibly pleasant, and roughness which is unpleasant. These fuse and the feeling-element is then only slightly pleasant. *X* 75: "On the introduction of No. 2, in so far as it was sweet it fused with No. 1, but its special raspberry quality was suppressed by the chocolate flavour. The effect of the fusion was to enhance the Plre of No. 1." *Z* 109: "...there was something unpl. due to No. 4 and a pl. f.t. due to No. 1, but after a time I was not c. of any unpl. f., but only of one slightly pl. f.t. which was due to the compound expee." Further examples are *W* 15, 123, 130; *X* 120; *Z* 72, 73, 81, 84, 115, 126, 127, 140, 141.

(ii) *Fusion or combination of cognitive components with a new feeling-element which is not an algebraic sum of the feeling-elements of the component sensations.*

E.g. In *W* 74 there are two gustatory sensations each of which is pleasant. They "...became fused and a new Sn was produced which

was slightly unpl." *X* 86: "At first decidedly unpl. in both cases.... Soon the two Sns fused and the bitter began to predominate. The f.t. then became less unpl." Further examples are: *W* 93, 122; *X* 89; *Z* 113.

(iii) *Analysis of cognitive complex with complete analysis of feeling-element.*

E.g. *X* 53: "The first effect was a fusion of f. which resolved itself as the sound continued into a pl. f. from the tonal Sn and an unpl. f. from the accompanying breath of which there was a good deal. As long as the Sn was not analysed the f.t. was not analysed and remained fused. As the Sn separated the f.t. separated. There was tone and noise and Pls and Unplls." Further examples: *W* 153; *X* 119.

(iv) *Analysis of cognitive complex with incomplete analysis of feeling-element.*

E.g. *W* 73: "At the beginning the two Sns were hardly distinguished one from another in C.... No. 3 was pl., but the f. of No. 5 was not always distinct. There seemed to be the f. of No. 3 and then an additional f. of 'No. 3 + No. 5.'" *Z* 83: "First I had one Sn giving rise to one f.t., only by c. analysis I became aware and localized No. 3 on the right hand owing to its greater extensity, etc. I could not discover two f.t.s, the f.t. of the Sn I attended to was pl." Further examples are: *W* 115; *X* 105; *Y* 75; *Z* 96, 102.

The conclusions from this are very general. They may be stated thus:

(9) *When fusion or combination of cognitive elements takes place there may be or there may not be some algebraic summation of feeling-elements.*

(10) *On analysis of a cognitive complex its feeling-tone may or may not be split up.*

### **β 1. RESPECTING FEELING-ELEMENTS ATTACHED TO RECOGNITION AND REALISATION.**

There are only fourteen statements of which seven concern Recognition and seven Realisation; though, of course, no hard and fast line of demarcation can be drawn between them.

Being able to obtain a sensation from a weak olfactory stimulus produced pleasure (*W* 33 and *Z* 155), so also the ability to discern a colour in shadow (*W* 51) and the realisation (i.e. success of discovering) of the cause which produced a line on a coloured paper (*W* 165).

In these cases "realisation" was pleasant whilst in *W* 153 the heat-sensation was indifferent as regards feeling-tone, but "...there was

perhaps some Ple in its being as clear and indubitable." On the other hand in *W* 155 "...there was some Unple connected with the lack of success of analysis," in *W* 176 "the failure to get the attde (of analysing the feeling) was unpl.," that is, a failure of "realisation" of these conative tendencies is accompanied by Unpleasure.

Similar conditions obtain with "recognition." In *W* 1 recognition is followed by a distinctly pleasant feeling-tone. In *X* 45 "...there was a recognition of it (the olfactory stimulus) as reinstating the former expe. This was pl. first as recognition, and secondly as verifying the first trial...." Similarly in *X* 68. The statements *Z* 114 and 118 are possibly not quite so definite. Again on the other hand there is *X* 120: "...the unsatisfactoriness of it (the olfactory sensation) arose partly from the difficulty of classifying it." *X* 171 is interesting because the feeling-element of the sensation aided in the recognition of the stimulus.

From these statements it follows:

(11) *Realisation (of a conative tendency) and Recognition (of a sensory experience) are generally accompanied by Pleasure, and their failure by Unpleasure.*

**β 2. RESPECTING FEELING-ELEMENTS ATTACHED TO AN ATTITUDE,  
SITUATION, ETC.**

The terms "attitude" and "situation" are used in the protocols with varying connotations. Sometimes both terms appear to have been used for similar phenomena. As far as I am able to make out there seems to have been a tendency to employ the term "situation," to describe a generally more passive or "static" disposition on the part of the Ego, and the term "attitude" a more active or "dynamic" one. The "situation," so to speak, presents itself to the experiencing Ego, whilst the "attitude" is "taken up" by the Ego. These are, of course, merely general indications. It has also to be noted that "attitude" is not only used in the sense of Marbe's *Bewußtseinslage*<sup>1</sup>, but also for various affective and conative complexes. This indefinite use of the terms "attitude" and "situation" is, however, of no consequence here.

The statements may be distributed into two classes:

- (i) The attitude (or situation) has a feeling-tone of its own.
- (ii) The attitude influences the feeling-tone of a sensation, etc.

Whenever the term "situation" is used or the context of the statement

<sup>1</sup> Mayer and Orth. "Zur qualitativen Untersuchung der Association." *Ztschr. f. Psychol.* etc., 1901, xxvi. p. 5 sq.

is such that according to the differential definition given above, it (the statement) is to be regarded as referring rather to a "situation" than to an "attitude," it will be found that it is a case of a "situation" having its own feeling-tone and never a case of a "situation" influencing the feeling-tone of a sensation. E.g. "This inability to move away from the st. (O 5) was also unpl." (W 72). Or "These thoughts...together with the muscular Sns...fused into a total situation....This whole situation was distinctly pl." (W 138). Again, "...there was...some difficulty in adopting a cn. attde. The C. of this difficulty was distinctly unpl." (W 164). Further examples are W 157, 160, 166, 185; X 56; Z 96, 169, 170.

The following are examples of a feeling-element attaching to an attitude: "In the interval...there was a *waiting attde* which was distinctly unpl." (W 69). "General *attde of tension* with strong muscular Sns....This attde was slightly pl." (W 162). "These reflexes (in tongue) involve an *attde of curiosity* as to the nature of st. This attde was somewhat unpl." (X 27). "I was satisfied that I had followed the instructions. This plre of the satisfaction followed with the satisfaction on the termination of the Sn" (Z 96). Further examples are: W 68, 119, 130, 161, 168; X 51, 52, *bis*, 53, 98, 107, 110, 129.

The following are examples of an attitude influencing the feeling-tone of a sensation: "Attde became spectacular and f.t. became pl." (W 4). "...I determined, if possible, to adopt a more aff. attde. From that moment the Plre in the col. increased appreciably" (W 163). Further examples are: W 7, 11, 81, *bis*.

It is probably due to individual differences that all the statements in this last class have been made by observer *W* and none by any of the other observers. The bearing of different attitudes upon the experience belongs really to the discussion of the experiments of class B, which will be found below (p. 222).

The conclusions from these observations are:

- (12) *A situation as it presents itself to an observer may have a definite feeling-tone attached to it.*
- (13) *A mental attitude may have a definite feeling-tone attached to it.*
- (14) *A mental attitude may influence the feeling-element attaching to a sense-experience towards which the attitude is directed.*

### β 3. FEELING-ELEMENTS ATTACHED TO THOUGHTS, IDEAS, ETC.

The first question that appears to me to suggest itself is "How is the feeling-element of the thought or idea related to the feeling-element

of the sense-experience that engendered the thought or idea?" No definite answer can be given to this off hand. It seems, however, that much would depend upon the nature of the thought or idea. To get at the results the statements may be arranged in different classes as follows:

(a) *Thoughts or ideas about the sense-experience itself, which do not influence its feeling-element.*

E.g. "Plre resided partly in the Sn itself (**O** 5), partly in the idea of its faintness and fleeting character" (W 44). "As soon as the st. (**P** 2) ceased I thought 'it is over and it was not very bad,' and this thought was pl." (W 59). "Although the thought occurred that it must be a col. that I generally do not like, this could not destroy the impression of the moment that I did like it. The thought had a slightly unpl. f.t." (X 62). Other examples are: W 4, 57; X 122, 128. In three of the experiments the thought has a like feeling-element as the sense-experience and in four it is the reverse.

(b) *Thoughts or ideas about the sense-experience itself, which do influence its feeling-element.*

There are four statements to this effect which I have been able to find, viz. W 70: "This emotion and corresponding idea about the col. gradually vanished from C. and at the same time the accompanying Unpls until a state of almost indifference was reached. I then thought the col. was like khaki and had a very vague thought that khaki and therefore this col. is useful. At this point the Sn was very slightly pl...." Also W 17, 77, 177.

(c) *Thoughts or ideas about a change in the sense-experience.*

E.g. "I thought that the noise was vanishing. This thought was pl. in itself" (W 3). "Pleasurable expectation of gust. Sns; purely thought-Plres" (W 5). "When the st. (**T** 6) ceased there was added to the f. the thought that it was also shorter which was an additional source of Plre.... There was a persistence of the thought of the first st. with which it was compared. This Plre of the thought...co-existed etc." (W 58).

It appears from this that the feeling-tone of the thought itself is pleasant if it concerns a pleasant sense-experience replacing the neutral or unpleasant sense-experience that gave rise to the thought or idea. There is, I think no danger (and casual observation will bear me out) in generalizing from this result and stating that the thought or idea of an expected sense-experience has usually the same kind of feeling-element as that sense-experience is expected to have.

(d) *Thoughts or ideas about associated ideas, etc., that are ekphored by the sense-experience.*

In *W* 30 there is a colour sensation (**V** 6) with an unpleasant feeling-element which gives rise to an idea of faeces, also unpleasant, and in *W* 45 a tactile stimulus (**T** 5) of unpleasant feeling-tone ekphores an unpleasant idea of uncouthness and clumsiness. In *X* 102 a sound (**A** 6) sensation that is pleasant in itself produces a pleasant thought about the twitter of birds. In *Z* 91 a colour (**V** 5) of pleasant feeling-tone occasions a pleasant idea about a sunset. There is ekphored then in each case a thought or an idea which possesses a like feeling-tone to the ekphoring sense-experience. That this is, however, not always the case is evidenced by experiments *X* 125 and *Z* 199, where an unpleasant bitter taste gave rise to the idea of quinine which was pleasant, and casual observations will confirm this, e.g. the enjoyment of a fine day may produce thoughts about rainy weather which are unpleasant and vice versa.

(e) *Thoughts and ideas concerning the observer himself.*

E.g. "... This gave rise to the thought that I had stopped inspiring and that I ought to go on inspiring in order to expce the Sn. This thought was accompanied... by slightly unpl. f.t. connected with the fact that I seemed to have committed a breach of the instructions" (*W* 162). "Curious f. of Plre accompanied the expce from the reflection that I was enduring these unpl. expces so dispassionately and disinterestedly as if they were not my expces" (*X* 86). "The st. (**A** 1) aroused in me a tendency to activity, to go on with the scale. The f.t. due to this idea was pl." (*Z* 94). Other examples are: *W* 81, 142, 159; *X* 49, 116.

No inferences can be drawn here.

The results obtained in this section may be stated thus:

[From (a) and (b)]

(15) *Thoughts and ideas about a sense-experience may, or may not, influence the feeling-element of that sense experience.*

[From (c), as stated above]

(16) *The thought or idea of an expected sense-experience has usually the same kind of feeling-element as that sense-experience is expected to have.*

[From (d) (see p. 182)]

(17) *There is no constant relation between the feeling-element of a sense-experience and the feeling-element of an associated idea, etc., ekphored by that sense-experience.*

β 4. RESPECTING FEELING-ELEMENTS ATTACHED TO CONTRAST,  
RELIEF, COMPARISON AND CHANGE.

There are altogether 21 statements respecting feeling-elements of Contrast, 20 respecting those of Relief, 7 respecting feeling-elements of Comparison, and 3 respecting those of Change. Their distribution among the various observers does not call for any special remarks.

Taking *Contrast* first, it is found that in some cases

(1) *the Pleasure is increased by contrast.* E.g. *W* 66 (**V** 1 and 2): "I had the thought that No. 1 was gloomy compared to this (No. 2) and No. 2 then seemed even more pl. by contrast." *W* 144 (**O** 2 aff.): "Sn at first unpl.... A moment later I detected a pl. component in the Sn and for a brief period the Plre and Unpre distinctly co-existed. The Unpre vanished from C. rather abruptly and for a time the Plre was very considerable." *Z* 86 (**G** 4 and 1): F.t. (of No. 1) became distinctly more pl. after a time. There seemed to be a contrast-effect due to No. 4." Further examples are: *W* 83 bis, 103, 113; *X* 78.

In other cases

(2) *the Unpleasure is increased by contrast.* E.g. *W* 129 (hot and cold): "I think that when attn wandered from the hot to the cold the cold was rather more unpl. than it had been before I felt the heat." *X* 77 (**A** 1 and 6): "I think the Unpls of No. 6 is increased by contrast, breaking in on the first." *Z* 176 (hot and cold): "...when I put my right hand into the hot water there seemed to be a slight diminution of the unpl. cold Sn, but only for a few seconds, then it came on with increased force." Or

(3) *the Pleasure is due to contrast.* E.g. *Y* 121 (**T** 6 and **O** 6): "In the middle of the expt both Sns disappeared and I found myself wondering why it was that the tact. Sn, usually unpl., was now pl." *Y* 183 (**P** 3 eg.): "On withdrawal of the st. the P. Sn gradually decreased, but lasted for some seconds. The expce now was decidedly pl., although I could still distinguish the P. Sn." Also *W* 144 and *Y* 184/5.

(4) *The Unpleasure is due to contrast.* E.g. *W* 68 (**O** 2 and 6): "No. 6 was at first slightly unpl. in contrast with No. 2 with which it was definitely compared." *Y* 178 (**V** 1 cn.): "...a desire that Sn should continue which led to a distinct f. of Unpre when the st. was removed." Also *Y* 168 and 177.

(5) *Unpleasure is decreased by contrast.* E.g. *Y* 137 (**O** 4 and **V** 4): "Both Sns unpl., the olf. Sn the more unpl.... The vis. Sn seemed to be less unpl. after the arrival of the olf. Sn."

Coming to the statements respecting *Relief* I cannot find any definite difference upon which to attempt a classification. I will, therefore, merely quote a few examples: *W* 37 (**P** 1): "... I was pleased that it was not worse. 'F. of Relief' which was slightly pl." *W* 65 (**A** 1 and 2): "The interval between the two st. was unpl., chiefly owing to the cessation of the st. and the accompanying mood. The beginning of No. 2 was accompanied by pl. Relief." *W* 106 (**A** 5 and **G** 4): "... I actually did make such head-movements and...they were slightly pl. They seemed to be a Relief from the taste itself." And *ibidem*: "When it (the sound) was pl. it seemed somehow to be a relief from the Unpls of the taste which was then in the background of C." *X* 2 (**O** 1): "Agreeable on the whole; partly because it was an agreeable surprise; I was wondering whether a nasty smell would come. The Relief had something to do with the f.t." *X* 73 (**O** 5 and 3): "It (No. 3) gained part of its Pls by way of Relief." *Y* 166 (**P** 1 aff.): "There was a distinct f. of Plre when the st. was removed." *Z* 58 (**T** 6 >): "With the second (st.) a 'f. of Relief' at shorter d." The other examples are: *W* 58, 64, 87, 101, 104, 160 *bis*; *X* 90, 161, 181; *Y* 170; *Z* 204.

From these examples it is clear that Relief is a *Bewußtseinslage* (attitude or situation of Consciousness) which has invariably a pleasant feeling-element.

There are only a few statements respecting *Comparison*, but these are far more varied than those respecting Relief. We have statements where

(1) *Comparison produces Pleasure:*

*W* 41 (**T** 4 >): "There was direct comparison (of second st. with first) and the Plre seemed to be due to the comparison." *X* 67 (**T** 2 and 6): "The Plre of the scratching Sns seemed to be due to a comparison with the Sns of No. 2. It was as if No. 2 st. had left a negative after-image of unpl. quality and the scratching Sn obliterated it. The immediate comparison, made without deliberation, merely automatic, seemed to be the chief ground of Plre of No. 6." *Y* 88 (**O** 5 and 1): "No. 1 seemed decidedly pl. after No. 5, but the Plre died away, and at last it (No. 1) was slightly unpl."

(2) *Comparison produces Unpleasure:*

*W* 133 (**V** 1 and **T** 2): "The vis. Sn had distinctly the attribute of calm and profundity, and it was in comparison with this that the tact. Sn seemed frivolous. The comparison, once or twice, gave rise to very slight Unpre and very slight disapproval of annoyance with the tact. Sn." It may be noted here that both Sns were recorded as pleasant.

(3) *Comparison lessens Pleasure:*

W 20 (**T** 3): "I compared with last tact. st. (**T** 2) and began to expe Plre in less degree, which continued." X 53 (**A** 3 > ): "The second expt was less agreeable without being unpl., being less of a st., and partly from its comparing unfavourably with the first expt, and that attde was so far unpl."

(4) *Comparison increases Pleasure:*

W 50 (**T** 4 > ): "During pl. period the (second) st. seemed to be gentle in comparison with previous one."

Although I have not been able to find in the protocols any direct statements about

(5) *Comparison lessens Unpleasure and*(6) *Comparison increases Unpleasure,*

yet such experiences are after all merely variations of No. 2 above as Nos. 3 and 4 are variations of No. 1.

There remain three statements about *Change*. X 40 (**T** 4 < ): "The fluctuation in the first trial excited slight Unpls and in the change from simple contact to tickling was slightly unpl., although contact and tickling were slightly pl." Y 71 (**V** 2 and 6): "The transition from No. 2 to No. 6 seemed to be more unpl. than No. 6 itself." Z 97 (**V** 1 and 3): "The change in saturation on seeing No. 3 had an unpl. f.t." (both Sns **V** 1 and **V** 3 were pl.). Y 178 which was quoted above under "contrast" (p. 178) might have been equally well included here.

These examples are few, but they all agree in that the change, quâ change, was unpleasant, although the sense-experiences between which the change took place were pleasant in themselves, or, in one case, less unpleasant than the change. I am now going to suggest that if there is a case of change where the change, quâ change, is pleasant,—and this would generally occur after an unpleasant experience—such change then is experienced as *Relief*.

The results obtained here are these:

(18) *The feeling-elements (Pleasure-Unpleasure) may be increased or decreased by Contrast.*

(19) *The feeling-elements (Pleasure-Unpleasure) may be produced by Contrast.*

(20) *Comparison may produce feeling-elements.*

(21) *Comparison may lessen or increase the feeling-elements.*

(22) *A Change or Transition (which may include also cessation) of a sense-experience may, quâ change, have a feeling-element attached to it.*

*When the feeling-element is pleasant, whilst that of the sense-experience was unpleasant, the Change is experienced as Relief.*

### β 5. RESPECTIVE FEELING-ELEMENTS DEPENDING UPON VALUATION.

I have recorded three examples:

W 70 (V 2 and 6): "No. 2 pl. from beginning, Plre decreased and turned into slight Unpre as the col. seemed a little crude, but this impression of crudity wore off and the Sn became pl. again." W 133 (V 1 and T 2): "The tact. Sn seemed sometimes to be of a soothing and sometimes of a slightly frivolous nature. When this latter was the case there was, or had recently been, a comparison of the tact. with the vis. Sn. The vis. Sn had distinctly the attribute of calm and profundity and it was in comparison with this that the tact. Sn seemed frivolous." W 125 (T 1 and V 2): "...the two Sns seemed to have vaguely a certain moral character, the vis. Sn being more desirable, the tact. less desirable, because conducive to laziness."

Whence it is evident that

(23) *The Valuation of a sense-experience may influence its feeling-element.*

### γ 1. RESPECTING FEELING-ELEMENTS CONNECTED WITH CONATIONAL COMPLEXES OF TENSION, STRAIN, DISTRACTION, EXPECTANCY AND ADAPTATION.

There are two examples only of *Tension*. The feeling-element in both cases is unpleasant, but it may be reasonably questioned whether the unpleasantness did really attach to the tension as such, i.e. how far the fear and the muscular sensations entered into the conational complexes.

W 1 (T 1): "Tension was at its maximum when st. was felt. Tension slightly unpl., probably due to fear." W 164 (V 1 en.): "This state of paralysis gradually changed its character somewhat, becoming little by little a state of Tension accompanied by unpl. muscular Sns, especially from the region of the forehead."

As *Strain* the following two examples may be given in both of which the feeling-element is unpleasant. W 181 (A 5, critical attitude): "...On attempting to obtain the required attde there was a period of strain whieh resulted in intermittent withdrawal of the Sn and its f. from the focus of C. and in consequence diminution of the f. This period of strain was distinctly unpl. and the content of C. changed very rapidly." X 34 (G 1 <): "First taste was too tantalizing, too puzzling, to be

agreeable. Great difficulty to taste at all. The whole expce was therefore disagreeable."

I have included here two cases of *Distraction* both of which are unpleasant: *W* 167 (**G** 2 eg.): "Attn wandered idly over various things, chiefly vis. and astd. Sns from the room and I felt an aversion to making an effort to bring back the attn to the st. This state of distraction was slightly unpl., first because there was some irritation against the distracting cause, secondly I was dimly c. that I ought to be attending to the gust. Sn." *W* 168 (**G** 2 aff.): "A moment later I was distracted by a totally different gust. Sn, in itself indifferent or very slightly pl. in character, but which caused some very slight annoyance because it had distracted me."

There are also two cases of *Expectancy*, one of which is pleasant and the other unpleasant. *W* 5 (**G** 1): "Pleasurable expectation of gust. Sn." *Y* 162 (**G** 4 aff.): "There was a distinctly unpl. state of expectancy."

The feeling-element of any state of expectancy appears therefore to depend upon the feeling-element of the expected experience.

As to *Adaptation*, a lack of it appears always to be unpleasant. E.g. *W* 7 (**A** 4): "Slight Unpls. first, due to a kind of lack of adaptation." *W* 36 (**V** 1 < ): "Second st. required an appreciable time of adaptation; f. unpl." Further examples are: *W* 8 and 34. In *W* 38 (**A** 4 < ) the feeling-tone of the sensation is unpleasant during the period of adapting, but becomes pleasant afterwards. In *W* 25 (**T** 6) a period of adaptation is followed by a rapid rise of unpleasant feeling and in *W* 21 (**A** 3): "Initial period of adaptation with excitement which was pl.," i.e. the feeling-element is probably attached to the excitement and colours, so to speak, the process of adaptation which is accompanied by the excitement. In *W* 22 the initial period of adaptation is indifferent.

As regards *Tension*, *Strain* and *Distraction* the examples are far too few to allow of any general conclusions to be drawn. However, although there are only two examples also in the case of *Expectancy* the result seems to be in general agreement with ordinary observation and confirms Result 16 above (p. 177).

Respecting Adaptation we have the result:

(24) *The lack of Adaptation for an experience has generally an unpleasant feeling-element.*

*γ* 2. RESPECTING FEELING-ELEMENTS CONNECTED WITH CONATIONAL COMPLEXES OF *Effort* OR RESULTING IN *Movement* OR *incipient Movement*.

There are statements respecting *Effort*, one by observer *W* and several by observer *X*, and in each case the feeling-element is unpleasant,

viz. *X* 130 (**G** 2): "The expe was accompanied by some effort due to the difficulty of the analysis; this effort was slightly unpl." *X* 135 (**G** 2 and **P** 1): "I attempted to distribute the attn equally to both Sn-complexes....The f.t. of the effort was unpl." *X* 145 (**V** 1): "There was... an effort to intensify it (i.e. a faint memory-image). The Unpls of the effort was quite distinguishable from the Unpls of the reproduction." *W* 72 (**O** 5): "The inability to move away from the st. was unpl." In all these cases the effort is concerned with the overcoming of an unexpected or obstructing resistance and is unpleasant. If the resistance is not effectively obstructing then the effort to overcome it need not be unpleasant. This is learnt from every-day experience of the Pleasure derived from the effort to solve a problem, to lift a weight for the purpose of exercise or climb a hill, etc.

A great number of the statements given here respecting Movements and incipient Movements or tendency to Movements refer also to *Relief* and might have been included also in  $\beta$  4, and, as far as the sensations derived from them are concerned, the statements might also have been quoted under  $\alpha$  3. Nearly all these statements emanate from observer *W*, e.g. *W* 49 (**O** 4 < ): "I felt some nausea and I noticed movements of mouth and tongue, as if for spitting, I think. It was also vaguely in C. that those movements tended to get rid of Sn in some way." *W* 63 (**T** 1 and 2): "There seemed, however, to be an added Plre from this very Unpls, this Plre being connected with the tendency to remove the hand." *W* 106 (**A** 5 and **G** 4): "...Also the tendency to shake the head violently. I think that towards the end I actually did make small head-movements and that they were slightly pl., they seemed to be a relief to the taste itself." Further examples are: *W* 46, 114, 126, 138, 148, 150, 160; *X* 117.

In all these cases without exception the movements or the tendency to movement has a pleasant feeling-element attached to it since relief is *ipso facto* pleasant.

There remain to be considered the following three statements: *X* 119 (**T** 6 and **A** 4): "...the apprehension especially was connected with an impulse to withdraw the hand and the unpl. f.t. was partly connected with that." Here is an unpl. feeling-element, but it is anything but clear whether it is connected with the "apprehension" or the "impulse to withdraw." Next, *X* 138 (**T** 2 and **O** 6): "Introspection disturbed by attempt at classification; slightly unpl." Here also it is uncertain whether the Unpleasure belongs to the "disturbance" or to the "attempt" at classification. Last, *Z* 151 (**T** 2 and **O** 1): "It (i.e. the olf. Sn) was so

weak that I experienced an unpl. f. in trying unsuccessfully to get a stronger smell by inhaling more vigorously." It is no more certain in this case whether the Unpre is attached to the "trying" or to the "want of success." As a feeling-element attached to an "apprehension," to a "disturbance" and to a "want of success" would in any case be unpleasant it is more probable that it is attached to these experiences than to the "attempt," the "disturbance" or the "trying" to get a stronger smell. Anyhow it appears to me legitimate to discard the three statements.

Three statements about feeling-elements of attention, viz. *W* 159 *X* 130 and 135, will be considered below under κ 3.

The conclusions that may be drawn from these observations are:

(25). *The feeling-element attaching to an Effort to overcome an effectively obstructing resistance appears to be often unpleasant.*

(26) *The feeling-element attaching to a Movement, an incipient movement or a tendency to movement resulting from a conative process is pleasant.*

#### δ 1. RESPECTING THE RISE OF FEELING-ELEMENT BEFORE OR AFTER RISE OF COGNITIVE CONTENT.

Although the feeling-element is generally closely connected with its cognitive experience, yet it may sometimes show a certain independence. There are three statements that the feeling-element arose markedly later than the cognitive experience, one that it preceded it, and one that two feeling-elements fused before the fusion of their respective sensations.

*W* 1 (**T** 1): "Recognition (of st.), followed by distinctly pl. f.t." *Y* 36 (**G** 1 <): "...I can distinguish between the tact. and the gust. Sns, the f.t. arrived later."

*X* 171 (**O** 4 eg.): "...the Sn quickly arose which I seemed to recognize but could not name. Presently a strong unpl. f. developed and then I thought, etc...." [a reference to this is contained in the succeeding experiment. *X* 172: "...the Unpls seemed immediately to accompany the Sn, not to lag behind as it did in the last expt by an interval of about one second"].

*Y* 24 (**P** 3): "The Unpl. f.t. preceded the P. Sn."

*Z* 122 (**G** 1 and 4): "I was c. of the 2 Sns simly, but the f.t. in the beginning oscillated between pl. and unpl. and then later the f.t. became one, steady and slightly pl., and it was only later that the two Sns seemed to fuse."

This fact may be expressed as follows:

(27) *Feeling-elements may arise or combine before or after the rise or combination of the respective cognitive experiences to which they belong.*

δ 2. CONTINUATION OF FEELING-ELEMENT AFTER CESSATION OF COGNITIVE CONTENT.

The quasi-independence of the feeling-element referred to in the preceding paragraph is confirmed by the continuation of the feeling-element after cessation of the sense-experience. There are three statements.

*W 32 (T 1 <): "Pls lasted for some time after removal of st."*

*W 44 (O 5 <): "Plre persisted for some time after removal."*

*X 73 (O 5 and 3): "After the st. had been removed I had an idea of the act of smelling, and this idea had none of the olf. quality of the original expce, but it retained the f.t. that had accompanied the Sn."*

Respecting statement *W 32* it may be asked whether the feeling-element was perhaps not attached to the mood that occurred and which might have possibly outlasted the sensation. It is, however, unlikely that so experienced an observer as *W* would have overlooked such a fact.

It may therefore be stated:

(28) *A feeling-element may persist for some time after the cessation of the sense-experience to which it belonged.*

δ 3 and 4. RESPECTING THE CO-EXISTENCE OF FEELING-ELEMENTS.

In δ 3 are grouped together statements concerning the co-existence of like feeling-elements and in δ 4 statements concerning the co-existence of opposite feeling-elements. As no different principles seem to be involved in the two groups they may be discussed together. It may be borne in mind that until class A, group 3 of the experiments was reached, stimuli were not given simultaneously, so there was little opportunity for feeling-elements occurring together before expt 63.

In δ 3 the distribution of the co-existence of two Pleasures and the co-existence of two Unpleasures is, leaving the doubtful statements out of consideration, not very even. It is given in the following table.

		Observer:				Total number of statements
		<i>W</i>	<i>X</i>	<i>Y</i>	<i>Z</i>	
Affirmative Statements	Pl. f.e.	17	5	9	8	39
	Unpl. f.e.	14	6	4	5	29
Negative Statements	Pl. f.e.	—	1	3	3	7
	Unpl. f.e.	—	4	4	6	14

This would tend to indicate that it is easier for two Pleasure-elements to co-exist than for two Unpleasure-elements.

The observers may next be considered individually.

Observer *W* has eight statements where there are no less than three feeling-elements co-existing. E.g. *W* 65 (**A** 1 and 2): "The Plre in the st. was accompanied by a pl. mood of reposeful character and characterized by pl. org. Sns mostly in the abdomen. The Plre of these Sns was well located and quite distinct from the other Plres, though it co-existed with them. The Plres of the mood and of the aud. Sn seemed to a great extent fused." *W* 118 (**A** 1 and **V** 1): "I think that all the Plres mentioned [viz. of **A**, of **V**, and of mood] were present in C. simly, though their relative i. was continuously varying." *W* 115 (**A** 6 and **P** 3): "The anger was distinctly unpl. and its Unpls was distinct from that of the two Sns, though all three Unpleasantnesses co-existed." Further examples are *W* 63, 98, 107, 111, 163. The numbers of the experiments where there was co-existence of two feeling-elements are found in the analytical table given above (p. 161).

Observer *X* has fewer statements concerning co-existence of feeling-elements than observer *W*, viz. 23 against 31. Of these five say distinctly that co-existence was not observable (*X* 86, 114, 118, 122, 123) and another six statements are doubtful (*X* 49, 60, 94, 106, 124, 138). One statement (*X* 109) is explanatory only. There are then left 11 affirmative statements. But even here the co-existence is not always experienced directly as co-existence, but a judgment is arrived at inductively, e.g. *X* 63 (**T** 1 and 2): "Describing my memory of the 2 f.t.s of the 2 sim. Sns, they were distinct, and could be compared as greater and less, and were localized as each cohering with its own Sn and therefore, I should say, co-existing in C." Nearly all the remaining statements have some qualifying addition, "There *seemed* to be co-existence (*X* 76)," "I should say that the f.t.s...co-existed (*X* 79)," "I think I could compare the f.t.s simly, etc." (*X* 83, 89, 90), and so on (*X* 85, 116, 117). The most definite statements are: "I could compare them for a moment very well simly, for a brief time (*X* 119)" and "I seemed to come nearer than I can remember to have done before to sim. apprehension of the two Sns and also to the sim. apprehension of their f.t.s (*X* 142)." What a contrast with *W*'s definite statements, of which "the two Plres co-existed (*W* 105)" is typical. The reason of this divergence is partly due to individual differences in the ability of distribution of attention<sup>1</sup>, I

<sup>1</sup> Observer *X* himself has stated that he is bad at distributing attention, *vide* experiments *X* 72 (p. 82), 93 (p. 85).

believe, but evidently in part also to different attitudes adopted by the observers. Whilst *W* appears to experience the co-existence merely as such, *X*'s statements are generally about *comparing* the two feeling-elements simultaneously. "I could not perceive that they co-existed in such a way as to *compare* them *simly*" (*X* 60), "I do not think I could *compare* them *simly*" (*X* 86), "I could *compare* them nearly *simly*, but could not be sure that the *comparison* was exactly *sim*." (*X* 106). Some light is thrown upon this by a statement in experiment 109: "A part of the difficulty of comparing the f.s *simly* arises from the difficulty of appreciating the true character of the different Sns each for itself, thus as to the olf. Sn in this expt. it was some time before I could make up my mind as to what it was (i.e. the real expce itself) and secondly whether it was or not agreeable."

Observer *Y*'s statements about co-existence are 22 in number. Of these two are doubtful (*Y* 62 and 112) and seven are negative (*Y* 41, 44, 45, 59, 79, 80, 129) and 13 affirmative (*Y* 87, 91, 93, 114, 117, 118, 120, 130, 132, 139, 144, 146, 177). *Y* is always very precise in his statements and what, above all, is so very interesting as brought out in this series is the great improvement in the observation of the co-existence of feeling-elements. In experiment *Y* 59 (**T** 6 <) he says: "No co-existence and no alternation of f.t.s, they seemed to succeed one another." In experiment *Y* 62 (**A** 6 <) uncertainty is recorded for the first time: "The two f.t.s did not alternate and did not co-exist and yet seemed to be *sim*. I am not quite sure whether they did not alternate after all; I am not clear about this." There follow some more negative statements and then experiment *Y* 82 (**G** 1 and 4) (belonging really to  $\delta$  4) contains the first affirmative record: "The f.t.s were definitely localized and were present together for several seconds. I seemed to be able to attend to the f.t.s without any effort up to a certain point, then **G** 4 seemed to predominate and then I found I could not distribute the attn to both equally, nor could I attend for any time to the f.t. of **G** 1." After this *Y* records almost constantly the co-existence of feeling-elements. At first *Y* is altogether unable to experience two feeling-elements simultaneously, then a case or two of uncertainty are recorded, after which continuous improvement seems to take place until the two feeling-elements could be attended to simultaneously with ease; e.g. *Y* 146 (**O** 4 and **P** 2): "When both f.t.s became somewhat steady I could easily attend to both *simly*."

Very similar conditions obtain in the case of observer *Z*. There are altogether 28 statements respecting co-existence of which nine are

negative (Z 116, 139, 140, 142, 144, 145, 147, 148, 149), four are uncertain (Z 33, 63, 128, 149), two say that no statement can be made about co-existence (Z 173, 185) and 13 are affirmative. The first of these last (Z 132, **O** 4 and **V** 3) is a reasoned conclusion: "I was not c. of any alternation between the two f.t.s for the most part, but on the other hand I was not c. of the f.t.s co-existing, but conclude that they did from the stated fact of absence of alternation." Co-existence as such is then not yet apprehended. It is interesting to note that the following eight statements are negative, the ninth is doubtful and the tenth (Z 158, **O** 3 and **G** 1) says: "...both f.t.s definitely localized and they seemed to be co-existent." Then follow a great number of statements which are quite definite, e.g. (Z 160, **O** 6 and **P** 2): "...both f.t.s being definitely localized and co-existent," and so on.

The individual differences between these four observers are quite interesting. Observer *W* experiences co-existence of two similar feeling-elements from the very beginning without any difficulty, he is even able to hold repeatedly three feeling-elements in Consciousness simultaneously. With observer *X* there is seldom absolute and definite certainty and there is little improvement in the ability to experience co-existence<sup>1</sup>. Observers *Y* and *Z* behave very similarly. At first there is with both absolute impossibility to experience co-existence which changes with practice to the greatest facility. How far this is reducible to the "distribution of attention" or to different "attitudes" adopted by the respective observers is difficult to decide. Observer *X*'s peculiar manner of attending to a feeling-element, discussed on pp. 222 *seq.* is interesting and may be noted here.

Under  $\delta$  4 are classed those statements that concern the co-existence of *unlike* feeling-elements. There is little to be added to that which has been said in the preceding paragraphs.

There are 37 statements by observer *W*; all are affirmative and quite definite.

Observer *X* has 22 statements of which eight are negative (*X* 29, 62, 70, 105, 107, 115, 125, 126), six are doubtful (*X* 44, 45, 60, 91, 127, 141) and eight are affirmative. Two or three examples of these last will suffice, *X* 74 (**A** 3 and 5): "I am inclined to think the f.s co-existed. The effect was not that of two sources of stimuli but as if something had gone wrong with the tone and produced the queer noise along with it. This made the unity of attn more complete and with that there went a

<sup>1</sup> The question has been raised above (p. 186) of how much this may be due to a different attitude of observer *X* attempting to *compare* the feeling-elements simultaneously.

co-existence of different f.t.s. I think so, but it is very difficult to say." X 136 (**V** 1 and **A** 4): ". . . when it (i.e. the aud. Sn.) broke into the col. C. there seemed to be a moment when its f.t. was sim. with the col. f.t., but it was only momentary. During this momentary interruption the two f.t.s seemed to be present together. Afterwards the attempt to bring them together led to an oscillation of attn between the two." X 144 (**A** 1 and **V** 6): "Generally I found it difficult to attend to them (i.e. the f.t.s) simly, to apprehend them without a decided transfer of attn, but at the third expt I thought that the two f.t.s, i.e. pl. and unpl., were sim. in C. for short periods. This involved giving the chief part of my attn to the vis. st. and its f.t., whilst passively experiencing the aud. Sn with its f.t." The other examples are: X 78, 93, 100, 133, 139. The same difficulty in the distribution of the attention or in the attitude and the same uncertainty characterizes all these statements of observer X as those under  $\delta$  3.

Observer Y has 31 statements of which 14 are negative (viz. Y 42, 53, 55-7, 60-1, 64, 70, 74, 77, 89, 131, 134) and the remaining 17 affirmative. Two or three examples may suffice here also, since the same remarks as made under  $\delta$  3 apply here likewise. Y 82 (**G** 1 and 4): "The f.t.s also were definitely localized and were present together for several seconds. I seemed to be able to attend to the f.t. without any effort up to a certain point, then No. 4 seemed to predominate and then I found I could not distribute the attn to both equally, nor could I attend then for any time to the f.t. of No. 1." Y 95 (**A** 1 and 5): "At first I could not attend to both Sns simly, although trying as hard as I could; there was rapid oscillation from one to the other. Afterwards by adopting what seemed to me a more passive attde, I succeeded fairly easily and then I found I could attend to the f.t.s simly, but could not localize them." Y 121 (**T** 6 and **O** 6): "I failed to have both f.t.s in C. if I tried to distribute the attn over both. Only by attending strongly to the tact. Sn could I get both f.t.s simly. Having got them I could keep them relatively stable in C. and the two f.t.s were easily distinguishable." The remaining statements are enumerated in the analytical table, p. 162.

Observer Z has 26 statements of which 14 are negative, two doubtful, and 10 affirmative. They are all enumerated in the analytical table and it will suffice here to quote one or two of the affirmative statements. Z 152 (**T** 2 and **O** 1) records the co-existence of three feeling-elements: "I had three distinct f.t.s; a pl. one due to the olf. Sn and a pl. one due to the tact. and an unpl. f.t. due to the inhaling too much. I think

there were moments when all three f.t.s co-existed." Z 176 (heat and cold): "After a time the two f.t.s were in C. co-existent."

The following conclusions may be drawn from these results:

(29) *Two or more feeling-elements may co-exist in Consciousness; they may be like or they may be unlike.*

(30) *There is some indication that it may be easier for two pleasant feeling-elements to co-exist than for two unpleasant ones.*

(31) *Great individual differences obtain in the apprehension of the co-existence of feeling-elements.*

(32) *The ability to apprehend the co-existence of feeling-elements is improved with practice.*

#### § 5. RESPECTING THE POWER OF ONE FEELING-ELEMENT TO DESTROY ANOTHER FEELING-ELEMENT.

It is possible that the experience of one feeling-element dominating, or destroying, or swamping, or masking another feeling-element may have been expressed in the protocols in such a way as to suggest classification of the statements under § 9 and 10, fluctuations of feeling-elements. Or it may be that the statements made in terms of cognitive consciousness (e.g. W 88, 91, 93, 96; X 103, 131, etc.) refer perhaps also to the accompanying affective experience had the observer been questioned upon this point at the time of the experiment. However, the examples to be quoted will be sufficient to establish the fact.

There are three statements by observer *W*. W 67 (T 2 and 6): "At the end No. 6 became again distinctly predominant and the pl. f. of No. 2 vanished." W 110 (mood and V 6): "The col. was immediately markedly unpl. and the Unpls seemed at first to monopolize C. and to drive out the Plre of the mood." W 113: "It was during these periods that it (i.e. the P. Sn) was often particularly unpl. and would then seem to monopolize C."

There are five statements by observer *X*. X 76 (T 1 and 6): "Indeed as this Unpls of No. 6 developed hardly any attn remained for No. 1." X 135 (G 2 and P 1): "The f.t. of the effort (to distribute the attn) was unpl. and possibly masked other f.t.s." X 144 (A 1 and V 6): "Generally the agreeableness of the aud. st. was so great that it masked the f.t. of the vis. st. so much so that at one time I was tempted to think that the latter had become agreeable." X 76 and 167 are the other examples.

Observer *Y* has five statements. Y 47 (G 4 <): "The tact. and temperature (Sns) are pl. which continue for some time, until the gust. Sn slowly arises. The f.t. very unpl.; it seems to drive the other f.t.s

out of C. altogether." Y 54 (**A** 3 <): "The first st. was slightly pl. When it was half over I was c. of Sns from the skin of the chest which were decidedly unpl. This seemed to tone the whole expe unpleasantly and I could not analyse out the first f.t. at all." Y 149 (**T** 3 and **P** 3): "With the arrival of the P. Sn the f.t. of the tact. Sn was swamped and could only be made to reappear by concentrating attn upon the tact. Sn." Further examples are Y 124 and 158.

Eleven statements have been made by observer **Z**. Z 145 (**T** 6 and **A** 5): "The rubbing was at the beginning neutral in f.t., but it quickly became unpl. and so unpl. as to swamp the other f.t." Z 154 (**T** 6 and **A** 4): "I think one reason why it was difficult to make a statement on the f.t. of the aud. Sn was that the f.t. of the tact. Sn was so strong." Z 165 (**O** 4 and **G** 2): "I had the olf. (Sn) which was unpl. and which completely swamped the pl. f.t. of the gust. Sn. Until the olf. f.t. ebbed I was not c. of the gust. Sn or its f.t." Further examples are: Z 125, 126, 153, 155, 161, 169, 177, 178.

The result may be expressed thus:

(33) *A feeling-element supervening upon another feeling-element may become so strong as to obscure or destroy it (cf. κ 1, result 75, p. 225).*

#### δ 6. RESPECTING THE CHANGE OF FEELING-ELEMENTS WITH CHANGING COGNITIVE CONTENT.

The change of feeling-elements with the change of cognitive content is, I believe, a matter of almost daily observation. It may possibly be due to this very fact that there are so comparatively few statements made. Some of the statements classed in δ 9 might have found room here equally well.

There are 16 statements by observer **W**, two by observer **X**, six by observer **Y** and three by observer **Z**.

On account of the ease with which this observation can be made it will suffice to quote one example only from each observer. The references of the others are to be found in the analytical list on p. 162.

**W** 13 (**O** 5): "Unpre which rose slowly at first and then rapidly. (It) seemed to keep pace with rise of Sn (for brief period it lagged possibly behind.)"

**X** 57 (**O** 6): "At the beginning slightly exciting and pl., but soon became unpl. as the quality of the Sn became clearer."

**Y** 2 (**O** 1): "F.t. varied, first pl., then became distinctly unpl. St. apart from f.t. seemed to change."

Z 168 (G 3): "The f.t. became slightly pl., but when I experienced the full force of the taste it became slightly unpl."

The observation may then be put on record:

(34) *Feeling-elements may undergo a change together with the cognitive content to which they belong.*

δ 7. RESPECTING THE CHANGE OF FEELING-ELEMENTS WITH  
CONSTANT COGNITIVE CONTENT.

There are thirty statements by observer *W*, the greater number of which are fairly evenly distributed among visual, tactile, olfactory and auditory sensations, and no particular behaviour is noticeable in the changing of the feeling-element. As examples may be quoted—*W* 19 (V 3): "Mere stimulation seemed pl., wished col. were more saturated—pl. f. became less marked and changed into slight Unpre. Thought col. was washy and lacked character. F. changed again and became slightly pl." *W* 50 (T 4): "...Sn was nearly as indifferent as possible, though I did detect at one moment a very slight Pls and at another a slight Unpls. During pl. period the st. seemed to be gentle in comparison with previous one. In the unpl. period C. seemed purely spectacular. It was the Sn itself which was very slightly unpl." *W*. 143 (O 2): "To begin with, the Sn was slightly unpl. It then became neutral and towards the end there were very brief periods during which it was very slightly pl. or unpl." For further examples reference may be made to the analytical table (p. 162).

Observer *X* has thirteen statements, nearly half of which refer to olfactory sensations. The change from Pleasure to Unpleasure is by far more frequent than that in the opposite direction. I give the following examples. *X* 41 (V 5): "In attempting to judge whilst it was exposed there was a fluctuation, the decision being now that it was pl., and then that it was unpl." *X* 44 (T 5): "...at first pl. but became unpl. very quickly, not very unpl., but a decided change took place." *X* 109 (O 6): "The olf. Sn was at first slightly pl., but as it continued it became unpl. and seemed to get increasingly so...."

Observer *Y* makes 16 statements, 12 of which refer to olfactory sensations and nearly all the statements describe a change from pleasant to unpleasant. I give the following as examples. *Y* 9 (O 4): "F.t. at first slightly pl. turning to intensely unpl." *Y* 55 (O 3): "...St. at first was distinctly pl., then it suddenly turned to unpl. The change seems to be sudden, there seems to be no transition stage or neutral point."

*Y* 88 (**O** 1): "No. 1 seemed decidedly pl. after No. 5, but this Pls died away and at last it was slightly unpl."

Of observer *Z*'s ten statements four refer to olfactory sensations, three to visual, two to gustatory, and one each to tactile sensations and pain. Six of the changes are from unpleasant to pleasant or neutral, two from pleasant to more pleasant and two from neutral to pleasant or unpleasant respectively. As examples may serve the following—*Z* 103 (**V** 5): "No. 5 very slightly pl. f. immediately on seeing, which increased somewhat as time went on." *Z* 114 (**O** 4): "There was a slight unpl. f. on seeing No. 4, but it became slightly pl. towards end." *Z* 141 (**V** 4 and **G** 3): "The gust. Sn became a little unpl. after a moment or two, but it soon lost its force and became slightly pl. The f.t. due to the col. was almost neutral or very slightly pl., but it seemed to decrease still more<sup>1</sup>."

From these observations it can be inferred that

(35) *Feeling-elements may undergo a change whilst the cognitive content of consciousness to which they belong may remain comparatively unaltered.*

#### δ 8. RESPECTING THE CONSTANCY OF FEELING-ELEMENTS WITH CHANGING COGNITIVE CONTENT.

The occurrence of a constancy of feeling-elements with a change in the cognitive content appears to be rare. There are only eight statements, seven by observer *W* and one by observer *X*. They are certainly most remarkable, since the feeling-element behaves here similarly as it does in a mood, in connection with which the statements may be advantageously considered<sup>2</sup>. Being so few in number and of so great an interest I will quote them in full.

*W* 15 (**G** 14): "...taste became purely bitter when liquid reached back of mouth, Unpls remaining at high level." *W* 102 (**G** 2 and **O** 2): "When the gust. Sn predominated it was very distinctly pl. and the olf. Sn was either indifferent or very slightly unpl. When the olf. Sn predominated the gust. Sn remained slightly pl., while the olf. itself was either indifferent or unpl., on one occasion very distinctly unpl." *W* 109 (**A** 1 and **V** 1): "Attn fluctuated rather violently between

<sup>1</sup> The change in the feeling-element is frequently accompanied by thoughts respecting the appraisement of the sense-experience. Therefore the question may be raised whether the change in the feeling-element preceded or succeeded the appraising thought. If the feeling-element preceded the thought the example could be regarded as a special case of δ 18 (p. 208), if the thought preceded the feeling-element the statement could be classed with β 3 (p. 175).

<sup>2</sup> *Vide* p. 233.

the two Sns, but afterwards these fluctuations became much less marked and both Sns were continuously well in C., though slight fluctuations persisted to the end. In the earlier part both were approximately equally pl., so that the i. or quality of the f. did not fluctuate as did the Sns." *W* 119 (**T** 2 and **O** 1): "...the Pls of the touch seemed to remain fairly great even when the touch Sn itself was some way from C." *W* 142 (**O** 2): "The olf. Sn oscillated rapidly in i., but the Unpls seemed to remain approximately constant." *W* 148 (**G** 4 aff.): "...then gradually it (the drop) acquired an unpl. quality and became definitely gust. in character. This gust. character was, however, continuously changing and did not seem to be at all homogeneous. I found myself interestedly observing the kaleidoscopic changes in the Sn and at one moment I had the thought, accompanied by the verbal image, 'there in that place there is a salt Sn.' The unpl. f.t. was present throughout this period, but somewhat in the background of C." *W* 156 (**T** 6 cn.): "There was throughout the expt an alternation of attn between the Sns produced by the st. and muscular Sns, predominantly those from the left arm. This alternation seemed to correspond to an alternation between a predominantly cg. and a predominantly cn. attde. The Sns produced by the st. were unpl. throughout and this Unpls seemed comparatively unaffected by the above-mentioned alternation of attde. When attn was directed principally to the muscular Sn from the arm the cg. side of the Sns aroused by the st. were reduced to a minimum, but the Unpre remained scarcely weakened." *X* 29 (**V** 6): "First there was some Plre from the general effect followed by Unpre as its particular quality became more prominent. This persisted, yet at one time I noticed that I seemed to discriminate two cols, as if the fusion was incomplete, and I should have liked the blue if it had not been for the yellow."

This interesting observation may be recorded thus:

(36) *Feeling-elements may remain constant whilst the cognitive contents to which they belong may be modified.*

#### § 9. RESPECTING THE FLUCTUATION OF FEELING-ELEMENTS WITH FLUCTUATION OF COGNITIVE CONTENT.

I have recorded in this group 45 statements, of which 32 are by observer *W*, two by observer *X*, six by observer *Y* and four by observer *Z*.

The statements by observer *W* are all quite definite. There is fluctuation of attention between two sensations accompanied by a correspond-

ing fluctuation between the respective feeling-elements, e.g. *W* 80 (**A** 2 and 3): "Then there was a period in which attn fluctuated from one Sn to the other though both were continuously in C. The f.t.s of both Sns were now pl. and fluctuated in a corresponding way." *W* 107 (**O** 6 and **P** 1): "Attn fluctuated very irregularly between the two Sns, the prominence of their respective f.s fluctuating in a corresponding way." There is also fluctuation between the attributes of a sensation-complex and their respective feeling-elements, e.g. *W* 55 (**G** 3): "...the taste Sn itself at first was very slightly pl. There seemed to be piquancy about it which was agreeable. Then rapidly it assumed a disagreeable character, there seemed to be something sickly in it, but there were flashes of pl. f., which seemed to depend upon the same piquancy noticed at first." There is also fluctuation in the predominance, or clearness, or intensity, of a sensation with a corresponding fluctuation in the intensity of its feeling-elements, e.g. *W* 71 (**T** 3 and 5): "The prominence of the f.t.s fluctuated in a manner corresponding to the fluctuation of the Sns." *W* 84 (**P** 1 and 2): "The two Sns and their respective f.s co-existed in C. throughout the whole period, though there were fluctuations in their respective intensities. The i. of the f. always corresponded to the clearness of the Sn." *W* 92 (**T** 2 and 4): "There then began a long series of fluctuations in the relative predominance of the two Sns. Both Sns, however, were continuously in C. and there were moments when they were equally in C. The predominance of the relative f.s corresponded very closely throughout to that of the Sns." *W* 100 (**T** 4 and **G** 4): "The gust. Sn was unpl. throughout, though the i. and clearness of the Unpre was proportional to the clearness of the Sn."

It is quite different with the two statements of observer *X*. I will quote both. *X* 50 (**O** 4 <): "Both very unpl. and offensive, the second more, just in proportion to the i." Here is really no fluctuation, but only an increased feeling with an increased sensation due to an increased stimulus. *X* 53 (**A** 3): "I should say my f.s fluctuated as I was first aware of the sound and then of my attde of dissatisfaction." This statement is rather indefinite.

Two examples each by observer *Y* and observer *Z* will suffice. *Y* 68 (**T** 2 and 6): "I failed to attend to both Sns together. The attn rapidly oscillated and the f.t.s with it." *Y* 78 (**O** 1 and 6): "In No. 1 I could distinguish two Sns, one of them was pl., the other slightly unpl., the f.t.s alternating as the Sns alternated." *Z* 152 (**T** 2 and **O** 1): "The olf. Sn varied much in strength causing a corresponding variation in the f.t." *Z* 176 (hot and cold): "I noticed a fairly regular periodicity in

sudden increases of the cold Sn and its f.t. fluctuated correspondingly. I also noticed the same periodicity in the warmth Sns, but the sudden increases were here of comparatively small magnitude. I cannot say what relation there was between the phases of the two Sns. I do not think it was a direction of the attn to the cold Sn that caused the periodical maxima, but rather the other way, these maxima attracted the attn to them."

If the individual differences of the observers in this group are compared with those of the groups δ 3 and 4 a great similarity will be found. Observer *W* experiences the co-existence of feeling-elements very early and very easily, as is shown by his quite definite statements and their great number. With the fluctuation of feeling-elements observer *W* has again the greatest number of statements, he experiences the fluctuations earlier than any other of the observers, and they are also again the most definite. Observer *X* has in both cases the fewest statements and the greatest uncertainty obtains also in both series. Observers *Z* and *Y* are midway between these extremes, both as to the experience of co-existence of feeling-elements and to the experience of fluctuation of feeling-elements. Their observations begin later, are less numerous, and frequently less definite than those of observer *W*. There is then strong evidence for the existence of a positive correlation between these two kinds of experiences.

The following conclusions may then be drawn from these experiments:

(37) *A fluctuation of attention between two sensations, or a fluctuation of the intensity, or clearness, or prominence in consciousness of two sensations, or of two attributes of a sensation-complex, may be accompanied by a corresponding fluctuation between the respective feeling-elements.*

(38) *A fluctuation in the intensity, or clearness of a sensation may be accompanied by a corresponding fluctuation in the intensity or clearness of its feeling-element.*

(39) *Great individual differences exist in the experience of fluctuations of cognitive contents and their feeling-elements.*

(40) *There appears to be strong evidence for the existence of a positive correlation between (1) the experience of the fluctuation of attention between two sensations, etc., and a corresponding fluctuation between their respective feeling-elements (results 37 and 38) and (2) the experience of the co-existence of two or more feeling-elements (result 29).*

δ 10. RESPECTING THE FLUCTUATION OF FEELING-ELEMENTS WITH  
NON-FLUCTUATING COGNITIVE CONTENT.

The fluctuation of a feeling-element while the cognitive content to which it belongs remains comparatively constant appears to be of a rarer occurrence than the simultaneous fluctuation of both kinds of conscious content, as discussed under δ 9. It corresponds herein with its converse δ 8.

There are 15 statements altogether, six of which are by observer *W*, three by observer *X*, four by observer *Y* and two by observer *Z*. I will quote the following—*W* 27 (**G** 3): “I became aware of pricking Sns, at first slightly unpl., became at intervals pl.” *W* 77 (**V** 1 and 6): “No. 6 unpl., f. fluctuating in i., once or twice it became slightly pl.” *W* 114 (**P** 1 and **G** 4): “...the Unpls of the P. seemed to diminish more than its purely sensory side, so it was often only very slightly unpl. when so far as the Sn itself was concerned it was fairly prominent in C.” *X* 124 (**T** 1 and **V** 2): “The cutaneous st. excited contact Sns that were soothing, and tickling Sns which had a rapidly varying f.t. of Pls-Unpls in which the Pls decidedly preponderated.” *Y* 147 (**V** 6 and **G** 4): “Vis. Sn at first unpl. and then fluctuating between unpl. and slightly pl.” *Y* 157 (**O** 3 eg.): “...the Sn was pl. at first and then changed to unpl., but did not remain so all the time; later there was an oscillation between pl. and unpl.” *Z* 189 (**A** 5 aff.): “Sn slightly unpl., not quite steadily unpl., but fluctuating in degree.”

Other examples are: *W* 42, 86 and 145; *X* 114 and 117; *Y* 139 and 158; *Z* 190.

The conclusion to be drawn is

(41) *A feeling-element may fluctuate in intensity, and even quality whilst the cognitive content of consciousness to which it belongs may continue comparatively constant.*

δ 11. RESPECTING THE FUSION OF SIMILAR FEELING-ELEMENTS.

Judging by the number of statements made here the fusion of similar feeling-elements does not appear to be as frequent even as their co-existence. There are altogether 38 statements of which 13 are by observer *W*, seven by observer *X*, 14 by observer *Y*, and four by observer *Z*. All the statements are about equally definite and there is no remarkable individual difference between the observers. Neither the distribution among the different senses, nor the respective occurrences of Pleasure and Unpleasure call for any special remarks. Two examples from each observer will suffice.

W 82 (**T** 1 and 3): "There were moments when the f.s were less distinctly localized and not so sharply separated in C. These periods coincided with less sharp differentiation of the Sns, though the tendency to fusion was more marked in the case of the f.s than in the case of the Sns." W 93 (**G** 2 and 4): "I was aware of two different Sns coming from different parts of the tongue, but the f.s did not seem to be distinct, there was one f.t. for the two, and this was slightly unpl." X 108 (**T** 1 and **V** 3): "I should say that the f.t.s fused and produced centrally one effect....The more I got to attending to both Sns simly, the more complete was the fusion of the f.t.s." X 121 (**A** 1 and **V** 1): "The f.t.s of the two Sns were very similar and blended....I could hardly be said to compare the f.t.s simly, because they fused quickly and were then indistinguishable." Y 75 (**G** 1 and 2): "No. 2 seemed to be a combination of three gust. Sns, viz. an acid taste, then a sweet taste and then the raspberry flavour. All these were pl., and I cannot distinguish their f.t.s one from another....F.t. of all the Sns was pl., but I cannot distinguish one from the other." Y 138 (**A** 1 and **V** 1): "The f.t. of the visceral Sn was sharply marked off from the others and was easily distinguishable. But the f.s arising from the vis. and aud. Sns were not distinguishable from one another, i.e. I could not say which part of the Plre was due to the aud. and which due to the vis....Half-way through the expt the visceral Sns disappeared, but still I could not distinguish the f.t.s of the aud. and vis. Sns separately." Z 150 (**A** 1 and **V** 1): "...later on I was only c. of one pl. f.t. which seemed to be a fusion of the two." Z 183 (**V** 1 and **A** 4): "...towards the end they seemed to fuse into one pl. f.t....(In the second expt I did not get co-existence or fusion)."

All that can be recorded is the result:

(42) *Similar feeling-elements may fuse.*

#### § 12. RESPECTING THE FUSION OF OPPOSITE FEELING-ELEMENTS, WITH NEUTRALIZATION.

The statements about fusion of opposite feeling-elements are few indeed, the number of those where there is produced a certain degree of neutralization being only seven, viz. three by observer W, one by observer X and three by observer Z. They are the following—W 38 (**A** 4): "First Sn seemed weak and f.t. was unpl....Sn itself not unpl., but the disappointment rather...." W 39 (**V** 4): "In second (Sn) also a certain amount of Plre. but towards the end I attributed to the Sn a certain quality which seemed to me unpl., hot or fiery. This was slightly

unpl.... Just at the end this quality receded and the Sn became again slightly pl." *W* 118 (**A** 1 and **V** 1): "The noise caused by putting fork on box was felt as distinctly unpl., but as this stopped and I heard the sound of the fork, the Unpls abated and rapidly changed to Plre. I distinctly observed that the change was gradual but I think the fork was pl. from the beginning and what was unpl. was the emotion of irritation against the original noise."

*X* 97 (mood + **A** 1): "The f.t. of the aud. Sn was far more definite than the f.t. of the mood, steadier and stronger. It was agreeable and harmonized well with the character of the mood before the agitation set in. It was opposed to the f.t. of some elements of the agitation, which were probably due to ideas, and repressed and cancelled them." *Z* 72 (**O** 3 and 5): "No. 3 pl., No. 5 unpl....(sim. application) f.t. was neutral to unpl." *Z* 122 (**G** 1 and 4): "...the f.t. in the beginning oscillated between pl. and unpl. and then later the f.t. became one, steady and slightly pl., and it was only later that the two Sns seemed to fuse." *Z* 136 (**V** 1 and **P** 2): "First very slightly pl. f.t. due to col. I was then c. of the two Sns, but the f.t. due to each became almost neutral. Further they seemed to merge into one f.t. which was not localized."

#### δ 13. RESPECTING THE FUSION OF OPPOSITE FEELING-ELEMENTS, WITHOUT NEUTRALIZATION.

The number of reported cases of fusion of opposite feeling-elements without neutralization is seven, viz. two by observer *W*, four by observer *X* and one by observer *Z*. They are—*W* 79 (**O** 2 and 3): "This Unpls (of disappointment) co-existed with the Pls, but was not held very distinctly apart from it, both the Pls and the Unpls seemed to combine into a total state which was predominantly pl. There was no neutralization." *W* 119 (**T** 2 and **O** 1): "Touch very pl., smell fairly pl....there was a rather helpless attde which was somewhat unpl. All this time the touch Sn continued to be present, so that there were combinations of both simly: Plre-Plre and Plre-Unplre." *X* 17 (**V** 4): "First unpl. slightly. Then hesitation, because brightness st., as distinct from col., was agreeable. Total effect was unpl." *X* 53 (**A** 3): "The first effect was a fusion of f.s, which resolved itself, as the sound continued, into a pl. f. from the tonal Sn and an unpl. f. from the accompanying breath of which there was a good deal. As long as the Sn was not analysed the f.t. was not analysed and remained fused. As the Sns separated the f.t.s separated: there was tone and noise, and Plre and Unplre." *X* 115

(**O** 3 and **A** 2): "The olf. Sn was unusually difficult to classify and its f.t. was also very difficult to determine. It seemed to be partly, or sometimes, pl., and partly, or sometimes, unpl. Very baffling." *X* 117 (**V** 4 and **G** 3): "The vis. st. gave rise to mixed and alternating f.s. Probably it was first a mixed f. which resolved itself into a pl. f.t. from the red element of the st. and a certain dissatisfaction from the achromatic element." *Z* 123 (**A** 4 and 5): "The f.t. of No. 4 was neutral and of No. 5 slightly unpl., so that my f.t. was unpl. the whole time, but the f.t. seemed to become more steady and fixed with the time. It was only by oscillations that I could say that one was neutral and the other unpl."

The conclusion to be drawn from these two groups may be expressed as follows:

(43) *Opposite feeling-elements (i.e. Pleasure and Unpleasure) may fuse, sometimes tending to mutual neutralization, sometimes without producing any neutralization, producing in the latter case a "mixed" feeling.*

#### δ 14. RESPECTING THE DEPENDENCE OF FEELING-ELEMENTS ON THE COGNITIVE CONTENT OF CONSCIOUSNESS.

In this group I have collected a few statements which I experienced some difficulty in including in any of the other groups. As there are only five statements altogether I will quote them in full—*W* 151 (**P** 1): "The P. Sn was in C. throughout, but subject to two kinds of fluctuation. First the fluctuation of clearness in C. which seemed to depend upon the extent to which C. was occupied with other things principally the emotion and the muscular Sns, secondly the fluctuation of i. which was depending on the variation of the i. of the st. The Unpls of the P. depended upon both these factors." *X* 63 (**T** 1 and 2): "The f.s were distinguished from the Sns not at the time of expce, but in memory, except the f.t. of the acute contact Sns in No. 1, which were felt at the time as very slightly pl." *X* 64 (**O** 1 and 2): "F.t.s were distinct from Sns, but so connected with or dependent upon them, that anyone unaccustomed to analysis might easily take it for one process." *X* 109 (**P** 1 and **O** 6): "It was very difficult to compare the f.t.s of the two Sns. I could not say that they differed from one another as f., but as these expts go on I become less and less able to view the f. as something distinct from the Sn on the one hand and the motor reaction on the other hand." *X* 114 (**A** 5 and **G** 4): "The f.t. is an additional expce in some sort, but incapable of being distinctly separated. It is an adjunct of the Sn."

Statement *W* 151 might have been quoted under *a* 1 and 2, but I preferred to give it separately because it shows so distinctly how inter-dependent the various contents of Consciousness are. Statements *X* 63, 64, 109, 114 all give expression to the very close connection of particular cognitive contents and their respective feeling-elements.

The results to be recorded are

(44) *The feeling-element of a sense-experience, etc., may depend upon one or more attributes of that experience.*

(45) *The connections of the feeling-elements with their cognitive or conative concomitants are mostly very close.*

#### δ 15. RESPECTING THE TRANSFERENCE OF FEELING-ELEMENTS

(E.G. ASSOCIATIONS, ETC.).

When I speak of the transference of a feeling-element from one experience to another I mean essentially that the feeling-element of one experience influences or determines the feeling-element of another experience.

There are some very interesting statements in this group. Altogether there are 35, of which 10 are by observer *W*, seven by observer *X*, seven by observer *Y*, and 11 by observer *Z*.

The statements may be classified as follows:

(a) Transference of the feeling-element of an idea or image to a sensation.

1. A pleasant idea making a sensation pleasant.
2. An unpleasant,, ,,, unpleasant.
3. A pleasant image ,,, ,,, pleasant.
4. An unpleasant,, ,,, unpleasant.

(b) Transference of the feeling-element of a sensation to an idea or image.

(c) Transference of the feeling-element of one sensation to another sensation.

(d) Transference of the feeling-element of an emotional process to a sensation.

I will next give some examples.

(a) *Transference of the feeling-element of an idea or image to a sensation.*

1. *W* 62 (**V** 5): "At first the...Sn slightly unpl. and during this time it appeared slightly crude, then it became indifferent, then slightly pl. At this time I had a vague idea that green was the col. of Ireland.

The Plre seemed vaguely connected with this. I had the faintest possible image of some green garment. Towards the end this faded away and the col. became as nearly as possible indifferent." I will also give *W* 70 the first part of which is an illustration of (d), below. *W* 70 (**V** 2 and 6): "No. 6 unpl. at first, very slight emotion of disgust. Now I am not absolutely certain about this, the emotion of disgust was there first and then the col. became slightly disgusting or dirty. This emotion and corresponding idea about the col. gradually vanished from C. and at the same time the accompanying Unpls until a state of almost complete indifference was reached. I then thought the col. was like khaki and I had a very vague thought that khaki, and therefore this col., is useful. At this point the Sn was very slightly pl., but this Plre faded and a state of indifference came back." *X* 15 (**G** 4): "Unpl.; developed very slowly and increased in Unpls and then, as it got well back over the tongue, became more distinct and less unpl., possibly due to associations." Probably observer *X* recognized quinine which he favours as a tonic and it is to the pleasant feeling-element of this idea of the tonic to which he very likely refers. *Z* 116 (**V** 4 and 5): "Immediately on seeing No. 4 there was a slight unpl. f., but it gave way to a pl. one (associations of wall of a room of that col.). No. 5 was very slightly pl. from the start and associations of sunset." Other examples are *W* 69; *Z* 29, 90, 95, 162.

2. *W* 147 (**V** 6): "...I became aware of wavy horizontal lines in the middle of the paper. I thought these were caused by reflections. At first they were unpl. There was present in connection with them a vague idea (possibly accompanied by an equally vague image) of a human face with white unhealthy lines disfiguring the skin. Then the wavy lines gradually became more pl. and even seemed to be slightly picturesque and to lend interest to the otherwise monotonous surface. The Pls gradually increased to the end of the expt..." *X* 44 (**T** 5): "...at first pl. but became unpl. very quickly, not very unpl., but a decided change took place. Associations were excited, scraping of the body, etc. This brought with it slight Unpls. The f.t. of associations and that of the Sns can be distinguished...." *Z* 110 (**V** 1 and 4): "No. 4 was not so pl. as No. 1; in fact there was a momentarily unpl. f. with No. 4 (association of poisonous flower)." Other examples are *X* 28; *Z* 160, 220.

3. *Y* 21 (**A** 3): "F.t. decidedly pl., at first not quite so, but images arose and their f.t. enhanced the f.t. of Sn." *Y* 128 (**V** 1 and **P** 2): "At first the vis. Sn seemed to have no f.t. at all.... Then I had a faint image which is usually called up by this colour and which is distinctly pl., and

from that on the vis. Sn was pl. even after the image had disappeared." Other examples are: X 114; Y 18, 20; Z 10.

4. Y 38 (**A** 4): "The f.t. of first st. was at first slightly pl. and then changed to unpl. The change to Unpls was brought about by vis. imagery (a child crying)." Y 116 (**V** 3 and 4): "No. 4 was neutral until a vivid image arose (sunrise). No words but, as before, the whole picture meant 'another hot day.' The image was unpl. and immediately it arose the col. became unpl. too." Another example is Y 111.

(b) *Transference of the feeling-element of a sensation to an idea or image.*

X 73 (**O** 5 and 3): "After the st. had been removed I had an idea of the act of smelling, and this idea had none of the olf. quality of the original expe, but it retained the f.t. that had accompanied the Sn."

(c) *Transference of the feeling-element of one sensation to another sensation.*

W 109 (**A** 1 and **V** 1): "In the earlier part both (Sns) were approximately equally pl., so that the i. or quality of the f. did not fluctuate as did the Sns. The f. was, however, ascribed to, or definitely connected with, the predominant Sn at any moment. In the latter part of the time the f. was sometimes connected primarily with the sound, sometimes primarily with the col. This fluctuation did not seem to correspond closely to the predominance of the Sns though at this time there was very little difference in the relative predominance of the Sns." X 144 (**A** 1 and **V** 6): "Generally the agreeableness of aud. st. was so great that it masked the f.t. of the vis. st. so much so that at one time I was tempted to think the latter had become agreeable." Z 157 (**A** 4 and **P** 3): "I can only say the aud. Sn was neutral in this expt. I thought the aud. Sn became unpl. owing to its association with the P. Sn being part of the whole total expe. I was c. that the P. could not stop unless the aud. Sn also stopped. There was nothing unpl. in the sound itself."

(d) *Transference of the feeling-element of an emotional process to a sensation.*

W 70 has been given above under (a) 1. W 89 (**A** 1 and 5): "As soon as No. 5 began it was unpl., partly on account of its rough character and partly because it interfered with the hearing of No. 1" (i.e. annoyance). W 73 (**A** 3 and 5): "Occasionally No. 5 did become definitely unpl., but only for short moments. Also once or twice it was pl., though this Pls seemed to depend intimately on the excitement." X 39 (**O** 4):

"The reaction to the second st. was made up of unpl. f. and bodily aversion, bodily withdrawal and moments of disgust, whereas in the first st. there was much less of the bodily effects. The total of second f.t. is greater, but how much of this is due to Sn I cannot say." Other examples are *W* 69 and 166.

The results of (a), (b) and (c) above may be generalized as follows:

(46) *The feeling-element of one cognitive process may induce a like feeling-element in another cognitive process occurring at about the same time.*

The result of (d) may be generalized:

(47) *The predominant feeling-element of an emotional process may induce a like feeling-element in a cognitive process occurring at about the same time.*

#### δ 16. RESPECTING THE LOCALIZATION OF FEELING-ELEMENTS.

The statements in this group are very numerous. There are statements respecting 77 feeling-elements by observer *W*, respecting 88 by observer *X*, 109 by observer *Y*, and 100 by observer *Z*. The individual differences were quite important at the beginning, but partly diminished as the experiments proceeded.

The distribution of localization and non-localization among the different sense-experiences and among the observers is given in the following table.

Sensation:	Aud.	Gust.	Olf.	Pain	Tact.	Vis.	Viscer.	Mood	Total														
Localization	Localized	Non-localized	Localized	Non-localized	Localized	Non-localized	Localized	Non-localized															
Obs. <i>W</i>	1	—	6	12	—	10	—	16	—	22	—	2	—	6	1	—	—	1	77				
.. <i>X</i>	13	4	—	16	—	15	—	9	—	22	—	5	3	1	—	—	—	—	88				
.. <i>Y</i>	1	—	15	18	—	1	3	2	13	5	2	—	33	—	1	—	14	1	109				
.. <i>Z</i>	7	—	5	11	1	5	12	—	7	20	—	—	12	—	6	6	1	6	100				
Total	22	4	26	57	1	6	40	2	20	50	2	—	89	—	7	13	4	26	4	—	—	1	374

Observer *W* localized an auditory feeling-element only once, viz. in experiment 95, where it was localized with a visual feeling-element "to some extent in the respective stimuli." Six times the auditory feeling-element was not localized. The gustatory, the olfactory, the pain and the tactile feeling-elements were localized without a single exception, that is to say, that whenever a statement was made at all respecting localization it was affirmative. The localization of the gustatory feeling-element was generally on the tongue or in the mouth; that of the olfactory feeling-element in the nose, throat or gullet, sometimes vaguely; the

feeling-element of the pain and tactal sensation was generally referred to the hand, where the stimulus was applied. The visual feeling-element was localized twice: once in experiment 95 just cited and the second time in experiment 110 when the stimulus was given during a mood. Six times it was not localized. The visceral feeling-element was localized once, experiment 65, and once the feeling-element of a mood was not located. With the fusion of sensations the localization of the feeling-elements seemed to become less accurate. E.g. *W* 82 (**T** 1 and 3): "The f.s were for the most part localized in their respective hands, though there were moments when the f.s were less distinctly localized and not so sharply separated in C. The periods coincided with less sharp differentiation of these Sns, though the tendency to fusion was more marked in the case of the f.s than in the case of the Sns." *W* 94 (**P** 2 and 3): "At the end of the expt there was a period when the two Sns were much less definitely localized, and at this point the f.s also ceased to be localized or held distinct from one another. There was now only one f. of Unpls very vaguely localized somewhere in the front part of the body."

Observer *X* has not made a single statement that a feeling-element was not localized. There are four cases of auditory and three of visual sensations where the feeling-elements are noted as imperfectly or indefinitely localized. The auditory and visual feeling-elements are generally referred to the stimulus, or stated to cohere with the sensation in space, or the former, in the head also. The gustatory feeling-element is generally referred to the tongue, the olfactory to the olfactory chamber, the tactile and pain feeling-elements to the hands. The following examples will illustrate this—*X* 63 (**T** 1 and 2): "As the Sns were localized so were the f.s, they seemed to cohere with the Sns, but are quite distinguishable." *X* 65 (**A** 1 and 2): "(The Sns) seemed to be as much in my head as in space. The f.t.s cohered with the Sns and seemed to be a consequence of them, were distinguishable from them and like them imperfectly localized." *X* 66 (**V** 1 and 2): "(The f.t.s) seemed to be for the most part localized, but not entirely, not so completely as those of the odour Sns. The f.t. is not localized in the eye as the f.t. of the odour is localized in the olf. chamber, it is partly localized in space with the col. and it is partly diffused. I cannot say where it is." *X* 70 (**A** 2 and 6): "The f.s were bound up with the Sns and localized with them. The Sn seems to be in space of its own right and the f.t. only because it belongs to the Sn." *X* 114 (**A** 5 and **G** 4): "Thus the f.t. of the gust. Sn is much more localized than that of the sound. The sound is objectified and its f.t. in a greater degree central than in the case of the taste."

X 116 (**T 3** and **P 1**): "Both f.s were localized together with the Sns, but the f. of the soft Sn (**T 3**) was more diffused centrally than that of the other."

Observer *Y* has made statements respecting the localizability of 109 experiences. The auditory feeling-element he could localize only once, viz. Y 66 (**A 1** and 2): "I seemed to be able to localize the f.s (of No. 1) definitely somewhere in the head. . . . The localization (of No. 2) did not seem so definite as with No. 1. The f.t. seemed to be diffused over the whole body." In the remaining 15 cases observer *Y* was unable to localize the feeling-element. The visual feeling-element shows a similar behaviour. There were altogether 14 cases in none of which was it possible to localize it. An opposite behaviour obtains with the gustatory feeling-element which was localized in 18 cases out of 19, and the tactile feeling-element which was localized 33 times out of 34. With pain feeling-elements five were localized and two were doubtful. Of the olfactory feeling-elements three were localized, two were doubtful, and 13 were not localized. There is one statement about a visceral feeling-element which was localized.

In most cases the feeling-elements were localized with the sensation: the pain and tactile feeling-elements on the hand, the gustatory on the tongue or in the mouth, the olfactory in the throat or the head.

One or two examples will suffice. Y 115 (**G 1** and 3): "Both f.t.s were definitely localized and even when I changed No. 1 to the other side of the mouth I could still localize the f.t.s just as definitely as the Sns." Y 149 (**T 3** and **P 3**): "both (f.s) were very definitely localized."

Observer *Z* appears to have been unable to localize any feeling-element at first. In the early statements respecting 24 feeling-elements only one was localized, viz. Z 93 (**O 1** and 5): "f.t. seemed to be connected with nostrils." With experiment 130 localization begins to preponderate, there being then only six cases of non-localization and two uncertain cases. The feeling-element is generally localized with the sensation or with auditory and visual feeling-elements, sometimes with the stimulus in space. The statements concern altogether 100 feeling-elements of which 69 are localized, 29 are not localized and two were doubtful. E.g. Z 130 (**G 2** and **P 2**): "I could say this time the Unpls was here in my hand. The pl. f.t. of taste was less definitely localized in the mouth, it was more diffused." Z 144 (**G 4** and **P 1**): "The f.t. was localized with its Sns but I also had a diffuse f. which was also unpl. . . . The gust. Sn. . . was unpl. This f.t. was also localized with its Sn." Z 150 (**A 1** and **V 1**): "Then later on I was only c. of one pl. f.t. which

seemed to be a fusion of the two and at this time it was not localized. At the beginning I don't know which of the two f.t.s was the greater, i.e. the more pl., but they were distinctly localized, the one in the col. and the other also in space where the sound came from. But although these f.t.s were localized at definite points in space they also seemed to be diffuse." Z 173 (**A** 3 and **V** 3): "The vis. f.t. was localized on the paper and the localization of the aud. f.t. was diffused and indefinite. After a time, I think, the aud. Sn became slightly unpl., I got tired of it, and the unpl. f.t. was localized in the head."

If such statements as *X* 66, *X* 114, *Z* 150 and others are considered more closely the idea arises that the ability to localize the feeling-element depends probably to some extent upon the attitude of the observer towards the feeling-element. The more his attitude allows him to objectify the feeling-element the easier it is, it appears, for him to localize it. Or it may be the reverse, namely, the easier it is to localize a feeling-element, the more easily can it be objectified.

Another point of interest is the inverse behaviour of the feeling-elements and sensations. The sensations of the auditory and visual senses are more readily objectified than those of the other senses, whilst the feeling-elements of the former are less readily objectified and localized than those of the latter.

The results may be formulated thus:

(48) *The ability to localize a feeling-element depends to some extent upon the attitude of the observer towards the feeling-element. The more his attitude allows him to objectify the feeling-element the easier is it to localize the feeling-element, or possibly vice versa.*

(49) *The ability to localize the feeling-element improves greatly with practice.*

(50) *Great individual differences obtain with respect to the ability to localize the feeling-elements, especially those of auditory and visual sensations.*

(51) *The behaviour of feeling-elements is inverse to that of sensations in this way that whilst sensations of the auditory and visual senses are more readily objectified than those of the other senses, the feeling-elements of the former are less readily objectified and localized than those of the latter.*

#### § 17. RESPECTING THE DISTINCTION BETWEEN SIMILAR FEELING-ELEMENTS.

This fact is already implied with § 3, result 29, for unless similar feeling-elements could be distinguished one from another no statement

could be made respecting co-existence. Nevertheless it appears to me advisable to state this important fact explicitly.

I have collected eight statements of which the following are examples. *W* 172 (**T** 2): "These org. Sns were pl., but I believe this Pls was usually distinguished from that of the tact. Sn." *X* 122 (**G** 2 and **P** 5): "I could distinguish the immediate Unpls of the P. itself from the Unpls of its d." *X* 145 (**V** 6): "The Unpls of the effort was quite distinct from the Unpls of the reproduction." *Y* 179 (**V** 1 eg.): "I can distinguish a f.t. to the image and one to the col. The two f.t.s are distinct, though that of the image is faint. The distinction seemed to be most marked when the image died away." Other examples are: *X* 46, 55, 60 and 84.

This result may be expressed thus:

(52) *Similar feeling-elements attached to different cognitive contents can often be distinguished one from another and kept apart in consciousness.*

#### § 18. RESPECTING THE RECOGNITION OF A FEELING-ELEMENT BEFORE THE RECOGNITION OF ITS COGNITIVE CONCOMITANT.

There are only three statements which I will give in full. *W* 60 (**G** 2): "...on several occasions for short periods there seemed to be also an unpl. element, which seemed to be attached to a certain quality of the Sn. I think now there seemed to be a sort of sourness, although I did not analyse it at the time." *W* 70 (**V** 2 and 6): "Now, I am not absolutely certain about this, the emotion of disgust was there first and then the col. became slightly disgusting and dirty." *Z* 112 (**P** 1 and 3): "...then I had a distinct unpl. f.t. which was at once attached to No. 3, which was now P. in my left hand."

The result then is:

(53) *The recognition of a feeling-element may precede the recognition of its cognitive concomitant.*

#### § 19. RESPECTING THE PREDOMINANCE IN CONSCIOUSNESS OF A FEELING-ELEMENT OVER ITS COGNITIVE CONCOMITANT.

There is only one statement, but it is all the more interesting for it appears to be that we catch, so to speak, an emotion *in statu nascendi*.

*W* 160 (**O** 4 eg.): "As soon as the Sn appeared it was unpl. and this Unpls rose rapidly in i. until it attained a very high degree. The f.t. was quite the most prominent thing in C. and somewhat in the background was the Sn itself, with which, however, the f. seemed to be fairly intimately fused. This state lasted for some time with very little alteration.... I determined to adopt a more eg. attde, to pay more attn to the Sn and less to the f.t. For a brief moment the f.t. did become much

less clear in C., but then it recurred again with, if possible, increased i., and aroused a definite emotion of disgust which had not been present before."

I think I am justified in stating the result as follows:

(54) *A feeling-element may increase in intensity to such an extent as to over-shadow its cognitive concomitant and, engendering conative tendencies, give rise to an emotion.*

δ 20. RESPECTING A NEUTRAL OR TRANSITION-POINT FROM ONE FEELING-ELEMENT TO THE OPPOSITE ONE.

Observer Y is the only one who has made any definite statement on this point. There are three of these of which two are definite, the first of them mentioning explicitly the absence of a neutral or transition point. They are—Y 55 (O 3): "The second st. at first was distinctly pl., then it suddenly turned to unpl. The change seems to be sudden, there seems to be no transition point." Y 61 (G 2): "It was initially pl. and rapidly changed to unpl.... No co-existence and no alternation, they simply succeeded one another." Y 181 (G 2): "The changes from pl. to unpl. and back again were sudden."

This question is of great theoretical importance and will be reverted to in the next section (p. 235). Here I will merely record the result.

(55) *If a feeling-element changes from pleasant to unpleasant or vice versa this change need not pass through a neutral or transition point.*

ε 1. RESPECTING THE MODALITY OF FEELING-ELEMENTS.

In the protocols of observer X I have come across a few statements which give expression to the view now probably accepted by all—for I do not think that there is any body who would still regard the feeling-elements as qualities of sensation—that they, the feeling-elements, are a separate class of mental experiences. As there are only five I will give them in full.

X 64 (O 1 and 2): "F.t.s were distinct from Sns, but so connected with, or dependent on, them that anyone unaccustomed to analysis might easily take it for one process." X 65 (A 1 and 2): "The f.t.s cohered with the Sns and seemed to be a consequence of them, were distinguishable from them and, like them, imperfectly localized." X 66 (V 1 and 2): "The f.t.s are distinct from the Sns." X 68 (O 2 and 6): "The f.t. in both cases distinguishable from the Sn. I think f.t. of No. 6 more so than that of No. 2, which may be due to the change that took place." X 99 (A 1 and V 2): "As to the pure f.t., pl. or unpl., it was connected more directly with the main Sns."

It is pertinent to quote here another statement showing a certain independence of the feeling-element and the sensation. *W* 109 (**A** 1 and **V** 1): "The f. was, however, ascribed to, or definitely connected with, the predominant Sn at any moment. In the latter part of the time the f. was sometimes connected primarily with the sound, sometimes primarily with the col. This fluctuation did not seem to correspond closely to the predominance of the Sns though at this time there was very little difference in the relative predominance of the Sns. Sometimes the f. seemed to have no very definite connection with either of the Sns but to be connected with a total situation which comprised both stimuli."

The result may be expressed thus:

(56) *The feeling-elements are not attributes or functions of sensations or other cognitive processes, but a separate class of conscious processes. Although generally closely dependent upon the cognitive and conative processes to which they belong they often show a certain degree of independence and detachment.*

#### ε 2. RESPECTING THE QUALITIES OF FEELING-ELEMENTS.

There are 35 statements in all respecting the qualities of feeling-elements: 10 by observer *W*, 19 by observer *X*, four by observer *Y* and two by observer *Z*. I will quote a few examples by each observer.

*W* 46 (**G** 4): "The Unpls was of a different character in the first part when there was no bitter taste, than in the second part when there was a bitter taste. My attde was also different. In first part it was passive endurance; in second part there was a slight attde of resentment which seemed to find expression in the reflex-movements."

This is the first of *W*'s statements. He experiences different characters of the two Unpleasures, and is also aware of different attitudes, but does not yet analyse the characters of the Unpleasures. However in the next statement, although dealing with experiences of different senses, he asserts that there is no qualitative difference between the pleasure of the visual experience and that of the tactile one, viz. *W* 105 (**V** 1 and **T** 1): "I cannot find any difference in the two f.s (Plres), except one of i.... When I tried to discover whether there was any qualitative difference between the two Plres I immediately came across some sensory element, some quality of the vis. Sn, of the tact. Sn or the org. Sn." I quote also *W* 107 (**O** 6 and **P** 1): "When I have analysed any apparent differences of quality in the Unplres of the smell and that of the P. there seemed nothing left but difference of i. and local sign and extensity." *W* 124 (**O** 3 and **G** 1): "Any difference in quality (of the two Plres) seemed to

appertain to the Sns and not to the f." Other examples are: *W* 106, 111, 112, 115, 116, 126.

The statements of observer *X* are almost twice as numerous. He recognizes the similarity of two Pleasures or two Unpleasures from the very first, whether they belong to a mood and a sense-experience or to two different sense-experiences. E.g. *X* 64 (**O** 1 and 2): "The f.t. of the expces did not differ in quality, but only in degree as greater or less." *X* 96 (mood and **A** 1): "The quality of the aud. Sn so far as pl. could not be distinguished from the quality of the f.t. of the mood. The unpl. qualities of the P. and olf. Sns appeared to be different in some sort, but this can probably be explained by the disgusting character of the olf. Sn, viz. visceral reactions, or partly by the greater diffusion of the f.t. of the olf. Sns." *X* 101 (**G** 2 and **P** 2): "As to the quality of the f.t.s of the Sns I cannot compare them definitely enough to perceive any qualitative difference in them. The difficulty is to distinguish the f.t.s from the quality of the Sns on the one hand and the quality of the motor reactions excited on the other hand. Allowing for these differences there seemed to be nothing left except differences of d. and i." *X* 116 (**T** 3 and **P** 1): "The f.t.s were much more alike than the Sns, but the contrast between the Sns affected the introspection on the f.s so far that I could not say, that the f.s were quite the same." *X* 123 (**O** 4 and **V** 4): "I cannot say that I distinguished any difference of quality in the f.t.s, but only of i.; that is to say after making allowance for all the differences of Sn-qualities and reactions." The other examples are: *X* 63, 65, 66, 67, 68, 81, 82, 95, 105, 106, 110, 111, 122, 125.

Observer *Y* has only four statements of which the following may be quoted—*Y* 91 (**T** 1 and 4): "I cannot find any difference in the f.t.s, yet they were distinguishable, but I cannot say how they were distinguished. There was no fusion. Possibly the f.t.s were distinguishable owing to the difference in i. and/or local sign." *Y* 64 (**T** 1 and 2): "I cannot distinguish any difference in quality of f.t., only difference of i." The other examples are: *Y* 43 and 120.

Observer *Z* has the following two statements only—*Z* 140 (**O** 6 and **P** 1): "I could not discover any qualitative difference in the two f.t.s nor is it possible to say which was the more unpl." *Z* 149 (**A** 1 and **V** 1): "I could not discover any difference in the quality or even quantity of the two f.t.s."

The conclusion to be drawn from these statements may be summarised as follows:

(57) *There are only two qualities of feeling-elements, viz. Pleasure and*

*Unpleasure. Any other differences (except those of intensity, duration and extensity) are apparent only, and are found to belong to the sensations, or other simultaneous cognitive or conative processes.*

ε 3. RESPECTING THE INTENSITY OF FEELING-ELEMENTS.

Most of the statements classed under δ 9 and 10 concern also the intensity of the feeling-elements, and many statements given here could have been included in those classes too.

There are 21 statements here: 14 by observer *W*, five by observer *X*, two by observer *Y* and none by observer *Z*.

In *W* 22 (**O** 3): "as the Sn became clearer, the feeling-element became pl., rising till the end." In *W* 72 there was a "fairly violent fluctuation in i." in the pl. feeling-element of sensation of **O** 3. In *W* 90, 91, 100, 104, 123, 125, 129, 132, 133 the intensity of the feeling-element corresponded to the intensity and/or clearness of the respective sensations. This refers to both pleasant and unpleasant feeling-elements; and the sensations concerned were visual, tactful, painful and temperature. In two instances the absence of such correspondence was recorded and I will give these statements in full:

*W* 103 (**V** 1 and **P** 2): "This Plre was more marked when the vis. Sn was receiving greater attn, but the Plre changed only in i. and not in character.... The P. itself fluctuated in i. and also in Unpls, sometimes it was the more predominant of the two Sns and yet was less disagreeable than at other times when it was less predominant." *W* 119 (**T** 2 and **O** 1): "The Pls of both Sns fluctuated on the whole in the manner corresponding to the fluctuations of the clearness of the Sns, though the Pls of the touch seemed to remain fairly great even when the tact. Sn itself was some way from the focus of C."

There is greater variety in the statements of observer *X*. In *X* 57 (**O** 6) the intensity of the feeling-element varied as the clearness of the sensation. In *X* 68 (**O** 2 and 6) difference of degrees of intensity was noticed. In *X* 92 (**T** 4) "excitement seemed to break into the f.t. and slightly raise its i." In *X* 109 (**P** 1 and **O** 6): "The Unpls of the P. Sn bore the same relation to the Sn as the disagreeableness of the olf. Sn bore to that Sn." *X* 113 (**P** 1): "Increase of Unpls decidedly greater than the increase of i. in P. Sn."

Observer *Y* has these two statements: *Y* 172 (**A** 1 aff.): "The expe was most pl., particularly towards the end when the sound was dying away." *Y* 173 (**A** 1 eg.): "Compared with the previous expe the f.t.

is much less intense although it is still pl. The f.t. gradually increased as the sound died away."

The conclusions permitted by these few statements are:

(58) *The intensity of a feeling-element may, or may not, vary in agreement with the intensity and/or clearness of its sensation.*

(59) *In the case of a pleasant auditory sensation the intensity of the feeling-element may increase with the decrease of its sensation.*

(60) *In the case of a Pain-sensation the increase in the intensity of the unpleasant feeling-element is much more rapid than the increase in the intensity of the pain-sensation.*

### ζ 1. RESPECTING MOODS AND ORGANIC SENSATIONS.

I have collected from the protocols 19 instances of a mood occurring in conjunction with organic sensations, 18 of which are by observer *W*, one only by observer *X*, and none by observers *Y* and *Z*.

As there are in the protocols, however, numerous cases of the occurrence of a mood without any organic sensations being recorded, and still more numerous statements of organic sensations without mention of the occurrence of a mood, there is no corroboration of the view expressed by many writers, that organic sensations and moods stand invariably in some causal relation one to another. That this connection between organic sensations does, however, sometimes occur is evidenced by statements of observer *W*. E.g. *W* 3 (**A** 1): "Towards end (of expt) additional Plre of mood which was contented, reposeful, due to org. Sns." *W* 21 (**A** 3): "Was (i.e. Sn of **A** 3) complicated by pl. org. Sns connected with the mood." *W* 32 (**T** 1): "There were also org. Sns which seemed to be an integral part of, or helped to constitute, a mood of repose which was distinctly pl." *W* 95 (**V** 1 and **A** 1): "There were also continuously present weak but widespread org. Sns which seemed to be intimately connected with the mood." *W* 178 (**A** 3): "In the relaxation period there was usually present a mood of 'mystery and contentment' which was distinctly pl. This mood was associated with the Plre of the org. Sns which were just as clear in C. as during the moments of attn but which were slightly less intense than in such moments." *X* 95 (**G** 2): "I am not sure that there is any specific Plre attaching to the mood as such. The Plre of a slight cheerful mood, that is what I have, is rather connected with respiration, or warmth, or ease of position, or ideas which occur from time to time, they are all very slightly pl. Having these various sources the resulting f. is very diffuse." Other examples are *W* 7, 31, 65, 66, 80, 109, 110, 111, 128, 158, 175.

In the following two examples organic sensations connected with mood, and organic sensations without any mood occurred.

W 118 (**A** 1 and **V** 1): "In addition there was a mood of repose which was also pl., accompanied by org. Sns. Once or twice a particular group of org. Sns rather intruded into C. and was slightly unpl. It seemed to have nothing to do with the mood." W 120 (**T** 6 and **A** 4): "It (i.e. the aud. Sn) soon became associated with a mood of reposeful character which was also accompanied by org. Sns of a pl. character, though these were very much in the background of C....The mood was most prominent when the sound was most clear in C....The tickle Pls was not accompanied by any mood, but when it was most prominent in C. the org. Sns were of a different character and I felt much alert and ready to move."

The result of this paragraph is then as follows:

(61) *Moods and organic sensations may occur quite independently one from another, but they may also occur closely and possibly causally connected.*

**ζ 2. RESPECTING THE CONTINUANCE OF THE MOOD AFTER THE COGNITIVE CONTENT PRODUCING IT HAS DISAPPEARED.**

The experiments of class F are essentially a repetition of some of Störring's experiments on "Stimmungslust<sup>1</sup>."

I have been able to carry out these experiments with two observers only, viz. W and X. These experiments are W 110 and X 95-96 *q.v.*; they show that

(62) *A mood produced by a sensory stimulus may outlast its sensation.*

**ζ 3. RESPECTING THE DISTINCTION OF THE FEELING-ELEMENT OF A MOOD FROM THAT OF COGNITIVE CONTENT.**

There are 12 statements which concern this question, nine are by observer W and three by observer X, none by observers Y or Z. Of W's statements there are three which are negative, four affirmative and two both negative and affirmative. Of X's statements two are affirmative and one negative. The following examples will suffice.

W 65 (**A** 1 and 2): "The Plre of the mood and of the aud. Sn seemed to a great extent fused....Then I felt a vague discontent which gradually merged into the thought that this st. was less reposeful. This discontent persisted to the end and was unpl. and co-existed with the Plre from the actual Sn." W 110 (**G** 2): "I think that occasionally the two Plres (i.e.

<sup>1</sup> *Vide* above, p. 20.

of the mood and of the gust. Sn) co-existed and were distinctly separate, though most of the time there seemed to be a considerable degree of fusion. When sensory Plre was felt as distinct from the Plre of the mood there was a higher degree of attn generally, and to the Sn particularly, than during periods of comparative fusion." *W* 173 (**T** 2): "There was, however, a tendency to expe a mood during relaxation. This mood was pl., but the Plre was quite distinct from that of the tact. Sn during moments of attn. In relaxation I cannot say I distinguished the Plre of the Sn from that of the mood.... The mood seemed to be to great extent cast off during the attn periods." *X* 96 (mood + **A** 1): "(Mood) strengthened by the aud. Sn which was very agreeable. The f.t. of the aud. Sn was compatible with the mood, so it was possible to attend to the Sn and its f.t. as part of the mood." *X* 97 (mood + **A** 1): "The f.t. of the aud. Sn was far more definite than the f.t. of the mood, steadier and stronger." Other examples are: *W* 31, 38, 95, 152, 163, 164; *X* 95.

The conclusion is

(63) *The feeling-element of a mood may sometimes remain distinct and separate from the feeling-element of the cognitive content of Consciousness, sometimes these feeling-elements may fuse.*

#### ζ 4. RESPECTING THE PRODUCTION OF MOOD BY (FUSION OF) FEELING-ELEMENTS OF COGNITIVE CONTENT.

There are four statements by observer *W* and three by observer *X*. Sometimes a mood is produced by the fusion of two sensory feeling-elements, sometimes the mood emerges out of the one feeling-element. E.g. *W* 109 (**A** 1 and **V** 1): "In the earlier part both (Sns) were about equally pl., so that the i. or quality of the f. did not fluctuate as did the Sns. The f. was, however, ascribed to, or definitely connected with, the predominant Sn at any moment. In the latter part of the time the f. was sometimes connected with the sound, sometimes primarily with the col. This fluctuation did not seem to correspond closely to the predominance of the Sns though at this time there was very little difference in the relative predominance of the Sns. Sometimes the f. seemed to have no very definite connection with either of the Sns, but to be connected with a total situation which comprised both stimuli. At these moments there was definitely present a mood of a reposeful nature which was accompanied by widespread org. Sns which were also themselves slightly pl." *W* 112 (**O** 3 and **A** 2): "The olf. Sn at first distinctly pl. and after the first moments this Plre seemed to fuse with that of the aud. Sn into a total pl. situation which seemed like an incipient mood of contentment

in which both Sns were in the background of C." *W* 147 (**V** 6 aff.): "The Pls gradually increased to the end of the expt and eventually gave place to a slight mood of exhilaration." *X* 121 (**A** 1 and **V** 1): "The f.t.s of the two Sns were very similar and blended. Each of them was soothing without being weakening, they produced a mixed mood in which strain and relaxation were combined. The f.s were partly localized as cohering with the Sns which in themselves seemed agreeable. Partly and chiefly the f.t. was diffused and belonged to the mood." *X* 124 (**T** 1 and **V** 2): "The vis. st. was the more pl., it was in a manner exalting, it produced a sort of imaginative exhilaration without definite ideas." Other examples are: *W* 163 and *X* 123.

The conclusion is

(64) *A mood may sometimes be produced by the fusion of similar feeling-elements, sometimes it may emerge from a single feeling-element.*

#### ζ 5. RESPECTING THE RECIPROCAL INFLUENCES OF MOODS AND OF THE FEELING-ELEMENTS OF COGNITIVE PROCESSES.

There are five statements, three by observer *W* and two by observer *X*.

In *W* 110, 129, and *X* 97 the feeling-element of the cognitive experience influences the mood. Example—*W* 110 (mood + **V** 6): "The col. was immediately markedly unpl. and this Unpls seemed at first to monopolise C. and drive out any Plre of mood.... When the Sn was less clear a very feeble Plre of mood seemed to return to be driven out again whenever the Sn and its Unpls came more into C. again." *W* 129 (h. and c.): "On plunging hand into cold water the cold was at first pl. for a brief moment. The Plre seemed to be connected with a generally stimulating effect throughout the body and was, I think, partly due to its influence upon the general mood of depression, it acted, as it were, as a tonic." *X* 97 (mood + **A** 1): "The mood before st. entered into it had become slightly agitated and uncertain. The tone relieved the agitation and re-established the mood."

In *W* 163 an attitude influences the feeling-elements of both a cognitive experience and a mood, viz. (**V** 1 aff.): "... I determined, if possible, to adopt a more aff. attde. From that moment the Plre in the col. increased appreciably, but the mood changed somewhat in character from one of repose to one of slight exhilaration which at the end of the expt became markedly pl." (see also *X* 98).

In *X* 98 a mood influences the feeling-element of a sensation or an attitude, viz. (mood + **P** 1): "The P. Sn was slightly unpl. at first, but

on comparing the Sn with the mood the f.t. of the Sn became less unpl. I could not be sure that it was not pl. The Ptre, however, was due, I think, not so much to the Sn itself as to the attde of enduring it, for this f. of this attde agreed with the mood which was one of tranquillity."

The results may be stated thus:

(65) *A mood may influence the feeling-element of a cognitive process, and vice versa.*

(66) *An attitude of mind may influence a mood or the feeling-element of a cognitive experience, and vice versa.*

#### η. RESPECTING EMOTIONAL PROCESSES.

I do not intend to discuss the instances of emotional processes recorded in the protocols. They cover but a small part of the field of the emotions and not many inferences can be drawn from them. Besides, although the emotions have generally been treated in connection with the feeling-elements, I hold that the ideational, sensational and especially the conational elements contribute far more than the feeling-elements to these most complex processes. I have nevertheless recorded them in the analytical table because there are several statements that appear to me very interesting and may prove of use to investigators on the emotions.

#### θ. RESPECTING PAIN.

When devising the experiments for the present investigation it appeared to me desirable to include also the question of the nature of Pain; for in no other field of elementary psychological enquiry did there seem to me to exist such confusion owing to loose terminology with its consequent laxity of thought, as here, and this up to quite recent times and by some of its greatest luminaries. I have therefore in the analysis of the protocols treated Pain differently from other sensations and cognitive processes. The results have already been published and discussed in a separate paper<sup>1</sup> to which I refer the reader. These experiments had, however, not been completed when that paper was written and many more examples are now given in the analytical table above (p. 165). The conclusions drawn in the earlier paper are as follows<sup>2</sup>:

- (1) Pain is distinguishable from contact and touch sensations.
- (2) Pain is a sensation of a definite quality or modality of its own.
- (3) The sensation of Pain is distinguishable from its feeling-tone.

<sup>1</sup> "On the feelings and their neural correlate, with an examination of the nature of pain." This *Journal*, vol. VIII. pp. 423-76. 1917

<sup>2</sup> *Loc. cit.*, p. 450.

(4) Pain is not the acme of unpleasantness since there are experienced feeling-elements of other sensations which are more unpleasant than that of Pain.

(5) The sensation of Pain may have a pleasant feeling-element.

The combined results may be incorporated here as follows:

(67) *Pain is not a feeling-element, not the acme of unpleasantness. It is a sensation of a definite modality whose feeling-element is mostly unpleasant, but which may be neutral or even pleasant at times.*

Another point of importance is emphasized in experiment X 113 (P 1): "Increase of Unpls decidedly greater than the increase of i. of P. Sn." Although this statement stands alone I will include it in the results, having repeatedly had occasion to observe it, and with pain only, in my own experience.

(68) *The increase in the intensity of a Pain-sensation is often accompanied by a relatively greater increase in the intensity of its unpleasantness.*

#### 1 and 2. RESPECTING THE FEELING-ELEMENTS OF MEMORY-IMAGES AND THE MEMORY-IMAGES OF FEELING-ELEMENTS.

There are several statements in the protocols of the experiments of classes A and B respecting the occurrence of images (visual, auditory, gustatory, olfactory, tactful) and the feeling-elements attached to them, viz. W 5, 9, 29, 67, 81; Y 11, 43, 96, 111, 138, 144, 159, 177, 179; Z 93. There is, however, a complete absence of any mention of a memory-image of a feeling-element. As an animated discussion still continues regarding the question whether the affective concomitant of a cognitive memory-image is the memory-image of the feeling-element of the original cognitive experience, or whether it is a fresh feeling-element, I decided to attack also this question through my well-trained observers, and devised the experiments of class D as described above, p. 18.

There is, according to the introspective evidence adduced from these experiments (Result 57, p. 211), no qualitative difference between pleasant (respective unpleasant) feeling-elements, whatever be the cognitive content to which they are attached. I argued from this as follows: Suppose two given sense-experiences  $S$  and  $\Sigma$ , on their occurrence, have a like feeling-element  $a$  attached to them, so that the respective experiences are  $Sa$  and  $\Sigma a$ . Now suppose I am able to ekphore the memory-image of  $S$ , viz.  $S'$ , and I find that it has an affective factor also. The question then is: Is this affective factor  $a'$ , an image of the original feeling-element, or is it  $a$ , a fresh feeling-element; is the whole experience now  $S'a'$  or  $S'a$ ? Let me suppose that it is  $S'a'$  and let me suppose

further that I am unable to ekphore  $\Sigma'$  and possess only a *knowledge* of the occurrence of  $\Sigma a$ . Then, I contend, I should still be able to retain with the knowledge of the occurrence of  $\Sigma a$  the actual memory-image  $a'$  from  $S'a'$ , as would be possible if  $a$  were a cognitive concomitant, say a colour. For example, let  $S$  be a dish of olives on a dinner-table and  $a$  their colour. Let  $\Sigma$  be a lady I met at the dinner-party who was dressed in olive-green. Suppose I can ekphore a memory-image of the olives with their colour, but I cannot ekphore such an image of the lady or her dress. I possess, however, the knowledge only of her presence and of the colour of her dress. This being so, with the idea of the lady I can ekphore the memory-image of the colour of her dress, because I know it to have been olive-green, and I have just experienced this memory-image as part of the complex memory-image of the olives.

As will be evident from the extracts from the protocols below, I cannot experience an affective factor with the mere knowledge or idea of an occurrence (except it be attached to the knowledge or idea quâ knowledge or idea, which is, of course, a totally different thing) although I can experience such a factor in immediate temporal contiguity. I therefore conclude that the affective factor attaching to a memory-image is a fresh feeling-element and not the memory-image of a past feeling-element.

Y 192: (1) "The situation I remember is that of a lady singing a song at a concert. The song was 'Softly awakes my heart' in 'Samson and Delilah' and I have distinct memory-images of the singer, the hall, the people sitting with me and also of the song." (2) "The situation is that of the same singer on the same occasion singing a second song. The memory-images of the singer, the hall, my friends, etc., are just as clear as in the first situation, but, although I know the name of the song, 'Mother o' Mine,' I have no memory-image of the melody."

*Introspection on (1):* "I can call up a memory-image of the whole scene immediately. The image is remarkably clear and definite. The f.t. connected with it is very pl. and very distinct. To me the f. has no marks that would enable me to say that it is a memory-image of the original f., it is in no wise different in nature from the f.t. of any situation which I experienced for the first time."

*Introspection on (2):* "The memory-image of the singer and the hall and the people are just as distinct and clear as in (1) and is slightly pleasantly toned, but when I try to call up a memory-image of the song and concentrate my attn on the song other parts of the total memory-image become obscure and the f.t. seems to disappear entirely. When

I try to get the whole scene into the focus of attn, that is the vis. images of the hall, the people, etc., as well as the auditory image of the song there is no f.t. connected with the expe, nor do I succeed in getting an image of the melody. I *know* that at that time I was greatly moved, etc...."

Similar examples are *W* 182 and *X* 189.

If the reasoning that induced me to perform these experiments may perhaps not pass altogether unchallenged since I postulated that a supposed affective memory-image should behave exactly like a cognitive one, yet the conclusion is confirmed by the results of many other experiments, e.g. *W* 134-5. Further in *X* 137 the observer tries to ekphore an olfactory sensation, but is unsuccessful and has merely a knowledge that it has been unpleasant. Then he obtains a memory-image of a blue colour, which image was pleasant, and adds: "I am unable to find any mark by which I am able to say whether the f.t. of the reproduced blue col. was a memory of the former expe or whether it was excited by the present memory-image." In *X* 143 he is quite definite that it is a new feeling-tone and not the original feeling-tone remembered. Similarly in *X* 145 where he states: "I was aware by direct introspection of the dependence of the f.t. on the reproduction and not on the memory of itself." Further examples are: *X* 140 and 146. Still more precise statements are found among those of observer *Y*, e.g. *Y* 96: "With **V** 5 I had a very vivid vis. image.... The image itself had an unpl. f.t., but I cannot distinguish it from the f.t. of the col." In *Y* 111 exactly the same observation is repeated. In *Y* 138 the feeling-element of the visual sensation (**V** 1) diminished with the disappearance of a visual image. In *Y* 144 a visual image increased the feeling-element of a visual sensation. In *Y* 179 he states: "I again had the vis. image connected with the col. very vividly. I can distinguish a f.t. to the image and one to the col. The two f.t.s are distinct though that of the image is faint. The distinction seemed most marked when the image died away." In *Y* 186 is to be found: "...the two f.s, i.e. the first of the sense-presentation and the second of the memory-image are absolutely independent of one another.... I find that the memory of the f. of the original sense-presentation has no aff. character at all, it is merely a eg. content of C. of having had the expe." Similar statements are in *Y* 187 (**T** 2), *Y* 188 (**G** 2), and *Y* 189 (**A** 1).

I have therefore no hesitation in concluding:

(69) *There is nothing on the affective side of consciousness to correspond with the memory-image on the cognitive side.*

(70) *The affective experience attaching to an ekphored cognitive experience is a new feeling-element, a new Pleasure or a new Unpleasure.*

(71) *The memory of a feeling-element is merely knowledge, i.e. solely cognition.*

There remain to be discussed those special experiments that were performed with three observers to get some evidence as to the formation of simple preference judgments. In the first experiment the observer was asked whether he liked marmalade; in the second whether he liked raspberry jam; in the third which of the two he preferred. In experiments 4 and 5 he had to answer about black-currant and plum jam respectively, and in experiment 6 he was required to arrange the four kinds of preserves in the order of preference. The protocols of the introspection were written down at once.

In experiments 1-2 and 4-5 (*W* 183-4 and 186-7) observer *W* has mostly gustatory and sometimes visual images which are always pleasant. In *W* 186 he is actually comparing pleasantnesses, but in experiment *W* 185, where he had to give his preference, he states: "Right at the end when I came to a definite decision there was some direct comparison between the Plre I was then experiencing in connection with the gust. image (a Plre which *meant* the Plre I usually expect with raspberry jam) with the 'knowledge-pleasure' of eating marmalade as I estimated it usually to be. This estimation of the Plre of eating marmalade was a pure eg. process. There was no Plre actually in C. as there was in the case of the image of the raspberry jam taste." In the last experiment, *W* 188, arranging the jams in the order of preference observer *W* has gustatory and visual images, but there is no comparison of feeling-elements.

Observer *X* in the four statements (*X* 190-1 and 193-4) as to his liking, as well as in his statement as to his preference (*X* 192) has no gustatory images, only intellectual knowledge of the pleasure in every case. In the last experiment (*X* 195), arranging the jams in order of his preference for them, he states: "...There were some slightly pl. f.s accompanying them (i.e. the gust. images), there was also some very slightly indefinite visualisation, but these had nothing to do with the judgment....The comparison seemed to be based partly on the gust. images and partly on very indefinite knowledge of former preferences. There was no comparison of the f.s."

Observer *Y* states only once in the four experiments (*Y* 193-4 and 196-7) that he had a slight gustatory image and that his answers were spontaneous and based upon knowledge of like or dislike. In the experi-

ment (Y 195) on his choice between the jams he states: "Then the two ideas 'pleasantly bitter' and 'insipid' took the place of 'marmalade' and 'raspberry jam' and the answer followed spontaneously." The arranging in order of preference in the last experiment (Y 198) is done in a similar manner, all judgments and decisions being based on knowledge.

Repeated observations upon myself on suitable occasions confirm these results and I therefore conclude:

(72) *In a judgment as to preference between two or more experiences there may, or there may not, be images with or without feeling-elements. But these are in no way essential to the judgment which is generally a purely intellectual act.*

#### κ 1. RESPECTING THE INFLUENCE OF ATTENTION ON FEELING-ELEMENTS.

Besides the examples drawn from the protocols generally, to which I shall revert presently, there are the experiments of class C, which were performed for the set purpose of elucidating the still hotly disputed point in the psychology of attention and feeling. Further the question of attitudes is essentially one of attention, so that the experiments of class B group 1 and 2 will be discussed here also. I will take the latter first.

As explained above (p. 16) in the principal experiments (class A) the instructions to the observer were "to concentrate the attention on the affective side of the experience," by which it was understood that the observer was to live the experience in such a way as to be able to give the fullest possible account of its affective side. In the experiments of group B 2 the instructions varied, the observer having to attend alternatively to the cognitive, the affective, and the conative sides of the experience respectively. Careful perusal of the protocols shows that in the experiences themselves there is seldom a great difference after due allowance has been made for slight variations in the application of the stimulus (although care was taken to avoid this), for the sequence of the experiments and for the repetition of the stimuli. It happened in a number of cases that the functions foreign to the given attitude were less clear. That is to say, in the cognitive attitude the feeling-elements and the conative tendencies were sometimes obscure; in the affective attitude analysis went sometimes less far and conative tendencies remained sometimes unnoticed. In the conative attitude the cognitive and affective functions appeared now and again diminished. Although this happened repeatedly it has been anything but a persistent occurrence, but it must be stated on the other side that the observers fre-

quently had difficulties in obtaining or maintaining the required attitude. Beyond this fact, it seems to me, nothing can be learnt from these experiments as a class, yet they have been very useful in furnishing a large number of examples in addition to those of the principal experiments of class A, in training the observers and in leading me on to the experiments of Class C.

This conclusion, that the experience is frequently not modified by the different instructions, is confirmed by statements to that effect by observers in group B 1 experiments where they were asked to discard the instructions they had followed in class A experiments and "to give themselves up to," "to live" the whole of the experience. E.g. Z 171: "I do not think that my expe was greatly modified by the different instructions." Z 172: "I was c. that my attde was different, but I do not think that the expe itself differed greatly from that under previous instructions." Also Z 173. Again X 128: "As compared with former expts there was less strain of attn." X 130: "Compared with former expts this expe was less complex, and, except in the last phase, required less effort. Even in the last phase the expe was free from the peculiar effort involved in the comparison (i.e. expts group A 3)." Also X 129 and 131. In the protocols of observer *W* there is no statement either way and from their perusal I could discover no difference from those of class A. Observer *Y* did not take part in these experiments.

As no definite information could be gathered from these experiments with respect to the influence of attention upon the feeling-elements, concerning which the most divergent opinions have been expressed, I decided to approach the question in a more direct way and devised the experiments of class C. As described above (pp. 17-8) the observer was handed quotations from Titchener, Külpe, Zoneff and Meumann, and Sully, to which the authors' names were not appended. He had to read these and then give a short account of his views upon the subject. After this experiments with various stimuli were carried out. The stimulus was continued as long, or repeated as often, as the observer required it. He was requested to change at will during the experiment from one attitude to another so as to be able to observe better any modification wrought by the change of attitude. With observer *W* the feeling-element had always the greatest intensity and clearness when he directed the attention to it than when he attended to the cognitive content or during relaxation of attention (experiments *W* 172-5 and 178-80, pp. 66-8). The same happened with observer *Y* (experiments *Y* 190-1, pp. 133-4). A different result is apparently obtained from the protocols of observer *X*. He could

not fix the attention on the feeling-element. When he attempted to do so he found he was attending to the organic sensations, sometimes with increased, sometimes with diminished feeling-tone, or he became conscious of his respiration (experiments *X* 183-8, pp. 102-3).

There obtain then here apparently remarkable individual differences corresponding exactly to the opposing views met with in the literature on the subject. There appeared to me, however, the possibility that these observers did not mean all exactly the same by "attending to" or "directing the attention upon" the feeling-element. I therefore asked observer *W* to adopt an "analytic" or a "critical" attitude, to analyse out the feeling-element, to focus the attention upon it to the exclusion of everything else as he would do with a cognitive content of consciousness. The result was (experiments *W* 176-7 and 181) that he was unable to get such an attitude and that the attempt always ended in cognitive or affective attention to organic sensations or cognitive attention to the stimulus. When observer *X* endeavoured to adopt such an attitude (experiment *X* 186) the sensation, he states, lost all objectivity and the feeling-element disappeared. A statement upon this attitude by observer *Y* is contained at the end of the protocol of experiment *Y* 190 (p. 133), which is to the effect that he could not attend to a feeling-element as something by itself.

All the observers were then asked to give an account of the different attitudes. These accounts are recorded on pp. 68, 104, 134 respectively. It is evident from these that the first suspected individual differences do not obtain and that the apparently divergent results are due to the fact that observer *X* meant here<sup>1</sup> by attending to the feeling-element something totally different from observers *W* and *Y*. The affective attitude of the former corresponds essentially to the critical or analytic attitude of the latter.

This result may be recorded as follows:

(73) *If a feeling-element is attended to as belonging to a cognitive content or as a part of a situation or complex it is intensified and becomes clearer; but if an attempt be made to focus the attention upon it to the exclusion of its cognitive concomitant the feeling-element is destroyed.*

Other references to the influence of attention upon feeling-elements are given in the analysis of the protocols (p. 166). They are in harmony with the result just stated if it is accepted that observer *X* used here

<sup>1</sup> Observer *X* has, however, not always been consistent in the use of the term "attending," for in experiments 155, 156, 158, etc., he uses it apparently with the same connotation as observers *W* and *Y*. Observer *Z* does so likewise in experiments 135, 149, 191.

(X 139, 150, 155) the term attention not in the sense of his protocols of class C experiments, but in the same sense as observers W and Y used it in their protocols of those experiments.

There are the following statements:

W 13 (O 5): "This eg. activity abstracted from aff. activity." W 145 (V 6 eg.): "I tried to adopt a more eg. state of mind by concentrating attn upon the Sn as such. This still further lessened the f.t. until finally very little Unpls was left." X 156 (V 6): "It (the col.) became so interesting that I lost all C. of its unpl. f.t." Z 217 (P 3): "Especially at those times when I noticed the eg. element was the f.t. absent." These tend to prove the counterpart of the preceding result, viz.

(74) *If an affectively toned cognitive experience is attended to in such a manner that the attention is focussed upon the cognitive aspect of the experience the feeling-element is decreased or lost.*

There are also these six statements. W 66 (V 1 and 2): "Definitely pl... until I noticed a small amount of dust on paper. It seemed to be an impurity and was unpl. I consciously endeavoured to neglect this and the total state became pl. again." X 56 (P 3): "This general f.t. of the situation is masked by attn to the particular st." X 90 (P 1 and 3): "Both unpl. No. 3 the more unpl.... It was more definitely unpl., so that it was a relief to turn to No. 1." X 114 (A 5 and G 4): "The aud. Sn itself slightly unpl., but excited associations which reduced the Unpleasantnesses, or counteracted them by the Plre of interest." X 126 (h. and c.): "The first effect (of putting hand into warm water) was to reduce the Unpls of the cold Sn, but that seemed to me to be due to distraction." And *ibid.*: "I felt that the attempt to distribute the attn merely reduced the i. of the f.t. of the cold Sn."

This tends to show that

(75) *If two cognitive elements belonging to the same complex experience have different feeling-elements attached to them and the attention is directed to one of the cognitive elements, the feeling-element of this cognitive element may be increased by the loss of the feeling-element of the not attended to cognitive element.* (Cf. 5, result 33, p. 191.)

## κ 2. RESPECTING THE INFLUENCE OF FEELING-ELEMENTS UPON ATTENTION.

There are the following eight statements. W 85 (T 5 and 6): "Whenever such P. Sns arose the corresponding st. received the greater attn, the other being quite in the background of C. During periods of appreciable length when there were no such P. Sns the stimuli were much less

unpl. and attn was much more evenly distributed between them." *X* 32 (**A** 1): "...it (**A** 1) excited pl. ideas. It attracts the ear, reflex of attn which is the opposite of aversion." *X* 104 (**T** 4 and **G** 4): "As the Unpls of the quinine increased it tended to distract attn from the other st. and draw it to itself." *X* 126 (h. and c.): "As soon as the expe (i.e. cold Sn) was allowed to complete itself, to develop freely, it absorbed the attn to itself." *X* 134 (**O** 5 and **P** 1): "The odour absorbed the total attn, the prick ceased to be c." *Y* 151 (**T** 3 aff.): "I was again fascinated by the rhythm and the attn involuntarily returned to this part of the expe whenever it got a chance." *Z* 75 (**T** 1 and 6): "Tendency of attn to be directed to No. 6 alone which was unpl." *Z* 219 (**A** 1 cn.): "The Pls of the Sn seemed to attract my attn."

These allow the following conclusion:

(76) *If a cognitive experience has attached to it a feeling-element of some intensity it may become the object of attention by virtue of its feeling-element.*

#### *κ 3. RESPECTING THE FEELING-ELEMENTS OF ATTENTION.*

Attention being a form of conation several of the examples cited under class  $\gamma$  1 and 2 belong equally well to the present class, especially those respecting tension and strain, whilst the three examples given below might also have been included under  $\gamma$  2.

*W* 159 (**A** 1 cg.): "There ensued an effort to adopt the... cg. attde. ... This effort was distinctly unpl." *X* 130 (**G** 2): "The expe was accompanied by some effort due to the difficulty of the analysis. This effort was slightly unpl." *X* 135 (**G** 2 and **P** 1): "When I attempted to distribute the attn equally to both Sns-complexes C. of them became too vague to compare f.t.s. The f.t. of the effort was unpl."

Result 25 (p. 184) may then be complemented by stating:

(77) *An effort of attention may have an unpleasant feeling-element.*

#### *κ 4. RESPECTING INTERFERENCE WITH ATTENTION.*

That the interruption of, or interference with, attention causes Unpleasure is an object of such commonplace observation that no special experiments are required to establish it. As several instances have, however, been recorded in the protocols—they are enumerated in the analytical tables—I cite this fact for the sake of completeness.

(78) *An interference with attention generally produces Unpleasure which may be attached to the interfering sense-experience or to the interruption quâ interruption.*

## κ 5. RESPECTING ATTENTION AND MOOD.

There are the following three statements by observer *W*, all of which belong to class C experiments.

*W* 173 (T 2): "The Mood seemed to be to a great extent cast off during the attn. periods." *W* 175 (emery cloth): "During the relaxation periods there is a tendency to fall into a mood of resignation accompanied by vague org. Sns. . . ." *W* 178 (A 3): "In the relaxation period there was usually present a mood of 'mystery and contentment' which was distinctly pl. . . . Both the eg. and the aff. aspects of the aud. Sn became less clear and intense, as soon as the relaxation began. The total aff. state was about equally pl. in both cases, the Plre of the mood compensating for the decreased Plre of the aud. Sn."

When in these experiments the observer relaxed his attention or distributed it he was prone to fall into a pleasant mood, and when he concentrated or focussed his attention upon anything the mood disappeared.

These results may be stated thus:

(79) *Relaxation or passive distribution of attention appears to be conducive to a pleasant mood, whilst a concentration of attention, the focussing of the attention upon something, tends to destroy such a mood.*

#### λ 1. RESPECTING CONATIVE TENDENCIES RESULTING FROM FEELING-ELEMENTS (STHENIC EFFORT, ETC.).

The examples of conative tendencies resulting from feeling-elements are very numerous and there seem to be no marked individual differences among the observers, either in the frequency or in the nature of the reactions.

It is, however, worthy of note that although the pleasant and unpleasant experiences in these experiments are approximately numerically equal, yet conative tendencies are recorded in an overwhelmingly larger number of cases in connection with unpleasant feeling-elements. Thus observer *W* reports only four times a tendency to reaction in the case of pleasure against 24 in the case of unpleasure. With observer *X* these are six against 34, with observer *Y* four against 38, and with observer *Z* five against 13. Adding these together there are 19 cases where a conative tendency of reaction to a pleasant experience is recorded against 109 cases of a conative tendency of reaction to an unpleasant experience. The nature of the tendency or reaction in the different sensory experiences may be shortly considered and I will begin with those due to pleasure.

As a result of pleasant *visual* experiences there is: an "inspiriting effect" (X 71)—a tendency for the colour to "hold the eye" (X 107)—a wish for the stimulus to continue (Y 19).—*Auditory* Pleasure produces: muscular sensations from body, vague ideas of movements and getting up (W 157)—a desire to continue in the same position (Z 219).—*Tactile* Pleasure is followed by: a tendency to movements of arms and body, alertness to move, an enlivening effect (W 119, 120, 126).—A tendency to movement towards stimulus (Z 121).—A wish for stimulus to continue or return (X 49, 52; Y 150; Z 188).—*Olfactory* Pleasure has in its turn a desire to prolong the experience by inhaling (X 47) and *Gustatory* Pleasure a desire to get more of it, to obtain the maximum of pleasure by extending the sensation by means of tongue movements (Z 36, 215) or to prolong the sensation and swallow (Y 180). In general then the conations engendered by a sensory pleasure tend to prolong and intensify that pleasure, to approach its source.

As to *Visual* Unpleasure it is found that conative tendencies are expressed by muscular sensations, ideas of closing the fist and hitting out (W 146), a wish to turn away or move away from stimulus (X 8; Z 120), movements of rejection (X 117, 157), movements of head and knitting of brow (X 158).—*Auditory* Unpleasure gives rise to incipient movements of head and limbs (W 86), to movements in the region of the eyes and forehead (W 98, Z 182), to a desire to get up (W 140), to a desire to withdraw or to make defensive reactions (X 28, 161), to a desire to turn one's head and put the fingers into one's ears (X 105, Y 29), to the experience of localized strain (Y 110), to a wish to close the eyes, knit the brows, clench the teeth (Z 189, 190).—*Tactile* Unpleasure produces a tendency to move away (W 126, Z 124), to jerk away the stimulus (W 156), to withdraw the hand (X 10, 25, 52, 119; Y 46, 136; Z 145, 206), to the innervation of the facial muscles (Z 204).—*Pain* Unpleasure has similar reactions, viz. involuntary movements of parts of body (W 151), shrinking away from stimulus (W 169), tendency to kick (W 169), contraction of thigh muscles (Y 57), clenching of teeth (Y 149), innervation of whole body (Z 201, 202), tendency to motor action (X 107, Y 184), or reflex drawn off by knitting of the brows (X 56), withdrawing of hand (X 113, 116, 167, 180, 181; Y 27, 60, 83, 84, 105, 126, 146, 149, 167, 183, 185), and turning away the head (X 182).—*Olfactory* Unpleasure produces a tendency to move away from the stimulus or to turn away the head (W 72; X 9, 39, 129, 171, 173; Y 16, 45, 50, 58, 65, 78, 94, 98, 101, 109, 113, 137, 146, 174-6; Z 93), a tendency to exhale in order to get rid of the stimulus (W 107, 121, 142; X 68, 69,

171, 173), muscular sensations from nose and lips (W 142), or general undefined violent reactions (X 73, 134, 172).—*Gustatory* Unpleasure results in involuntary movements of head and mouth expressing disgust (W 100), movements of rejection (X 117), shaking of head, movements giving relief (W 106, 132, 148, 150), movements of tongue, to salivate in order to dilute, to swallow (X 27, 122, 130; Z 198, 200). Again then, generally, the conations initiated by sensory Unpleasure tend to result in the getting away from the unpleasant stimulus, to shorten, to weaken it.

The results recorded in this section are then:

(80) *The conative tendencies produced by sensory Unpleasure are much more frequent and much more powerful than those produced by sensory Pleasure.*

(81) *The conative tendencies produced by sensory Pleasure tend to the approaching of the pleasant stimulus, to the prolonging of the pleasure and to the intensifying of it.*

(82) *The conative tendencies produced by sensory Unpleasure tend to the getting away from, or removing of, the unpleasant stimulus, to the shortening of the Unpleasure, and to the weakening of it.*

## λ 2. RESPECTING THE INFLUENCE OF CONATION ON FEELING-ELEMENTS.

I have been able to note the following three cases of the influence of conation upon feeling-elements.

*X 4 (V 1):* “Attempt to get rid of Pleasure is a failure,” i.e. the feeling-element could not be inhibited whilst the sensation lasted.

*X 18 (T 2):* “Another ingredient present in both expcs that was unpl. was the impulse to withdraw my hand.”

*X 23 (G 3):* “...as it developed it became definitely more and more unpl. I think it was not so much the flavour as the desire to spit, i.e. the reflex.”

The conative tendency in the last two cases toned the whole experience unpleasant.

Expressing these two results in as general terms as the small number of observations permits they may be stated thus:

(83) *It may be impossible to inhibit the feeling-element of a sense-experience as long as the sense-experience is attended to.*

(84) *A conative tendency may tone affectively a sensory experience by which it is produced.*

**λ 3. RESPECTING THE DETERMINATION BY CONATIVE TENDENCIES OF JUDGMENTS ABOUT THE STRENGTH OF FEELING-ELEMENTS.**

I have only four statements, two by observer Y and two by observer Z. They are the following:

Y 94 (O 5 and 2): "In comparing the f.t.s afterwards I seemed to judge their Unpls by the strength of these impulses (viz. to withdraw the head, etc.)." Y 101 (O 1 and 4): "I think that I judged No. 4 more unpl. than No. 1 because of its more strongly marked impulses to movements." Z 30 (V 6): "Inferred that since I wanted to look at it, it must have been pl." Z 160 (O 6 and P 2): "There was one factor which made me think the tact. (Sn) more unpl., viz. that I could, if necessary, endure the olf. (Sn) at less inconvenience than the other."

From these it follows:

(85) *A judgment respecting the intensity of a feeling-element may be determined by the intensity of the conative tendencies engendered by that feeling-element.*

**μ. RESPECTING COMPENSATION OF FEELING-ELEMENTS.**

There are 15 statements which are fairly evenly distributed among the four observers. One example from each will suffice. W 103 (V 1 and P 2): "This (vis.) Plre seemed in some way to compensate for the P. and to make it more tolerable." X 114 (A 5 and G 4): "The aud. Sn itself slightly unpl., but excited associations which reduced the Unpres and counteracted them by the Plre of interest." Y 119 (G 2 and 4): "No. 2 pl., No. 4 very unpl.... Here again there was no fusion but, although I can still localize the f.t. of No. 4, the f.t. of No. 2 became diffused and not localizable and shortly afterwards disappeared. Then No. 4 seemed to become still more intense." Z 176 (hot and cold): "The cold Sn was distinctly unpl. Then when I put my right hand into the hot water there seemed to be a slight diminution of the unpl. cold Sn, but only for a few seconds, then it came on with increased force."

I have shown above (δ 4) that opposite feeling-elements may co-exist and (δ 5) that opposite feeling-elements may destroy one another, (δ 12) that opposite feeling-elements may fuse with neutralization and (δ 13) that they may fuse without neutralization. Now, although some of the statements included in the present class may perhaps have been included in one or other of the groups mentioned above, it appears to me that they bring out—some more, some less—a new principle which is not one of the *differentia* of those groups. This principle is that an Unpleasure

may without any loss of its intensity co-exist or alternate or be imperfectly fused with a Pleasure and by reason of the existence of the Pleasure the Unpleasure may appear less unpleasant, more bearable. This paradox is solved if we do not attempt to analyse out the feeling-element from the cognitive experience. There is a complex experience in which we recognize an Unpleasure of a given intensity. Then supervenes a Pleasure which does not destroy or diminish the Unpleasure. This Unpleasure remains unchanged and the whole experience becomes more bearable, i.e. changes its conative aspect. There is no neutralization in the proper sense of the term (although observer *Z* uses it), because the Unpleasure and Pleasure continue both to be recognized. This is what I mean by "Compensation." The roles of Pleasure and Unpleasure may be reversed and we may still speak technically of compensation, e.g. *X* 3 (**A** 1): "Agreeable as far as tone; was accompanied by noise, total experience was hence below zero (indifference)." Or two feeling-elements of the same quality but of different intensities may co-operate; e.g. *Y* 137 (**O** 4 and **V** 4): "Both unpl.... The vis. *Sn* seemed to be less unpl. after the arrival of the olf. *Sn*."

Other examples are *W* 110, 178<sup>1</sup>; *X* 81, 119, 126; *Y* 110, 143; *Z* 86, 99.

The principle enunciated here may be expressed as follows:

(86) *One feeling-element may be "compensated" by another, i.e. in a complex experience a feeling-element may be joined by another feeling-element without its quality or intensity being altered, but the conative aspect of the total experience becomes modified.*

This brings me to the end of my analytical tables. There remain one or two points to be cleared up.

My own introspective observations made me note the frequency of organic sensations occurring in close connection with markedly affectively toned cognitive experiences. This observation is quite common and abundantly demonstrated by the statements collected under *a* 3. This fact probably gave rise to the physiological reflex theories of Lange and James. Repeated careful introspections leave me, however, without a doubt that a cognitive experience is, in its own right, endowed with a feeling-element at the moment of its occurrence. Then the intensity of the feeling-element appears to grow and organic sensations become noticeable. To give an instance: "I look up into the azure of the cloudless autumn sky. There is an immediate experience of the blue sky with vague ideas of depth, infinity, etc., all intensely pleasant. The Pleasure

<sup>1</sup> In *W* 178 the word compensating is used in a different sense.

grows, seems to overflow, so to speak, and I become conscious of organic sensations, deeper breathing, expansion of the thorax, increased tonus of the skeletal muscles followed immediately or accompanied by strong conative tendencies to jump, to sing, to shout 'I am so happy, how beautiful and kind is nature.' The point here is that the immediate sense-experience is pleasant, and that the organic sensations are subsequent, follow at an appreciable interval of time, and increase with their marked feeling-tone the affective side of the whole experience.

I have little doubt that my observers would have had similar experiences had I asked them to introspect upon this point, but this I would not do, lest I might impair the value of the whole of their testimony by laying myself open to the reproach of suggestion. There are, however, two instances in the protocols which tend to confirm my own introspections, viz. *W* 125 (**T** 1 and **V** 2): "Both pl. The col. called up vague vis. images of a picture of the sea I have got at home, and together with these vis. images there occurred ideas of fresh air and wind blowing upon me. These produced a variety of org. Sns connected with breathing, which I think was deeper than usual and a very slight tickle Sn in various parts of the body. The touch Sn then suddenly entered C. and was predominant.... As soon as the tact. Sn ceased the vis. Sn became more prominent in C. and also its accompanying Plre, and I noticed an increase in the above-mentioned org. Sns." *W* 86 (**A** 5 and 6): "...The Unpls (of No. 6) was always high, but occasionally became very intense. I noticed incipient movements of head and limbs, violent Sns from the neighbourhood of the eyes. I think that all these Sns were unpl., but the Unpls did not seem at all distinct from that of the aud. Sn."

I therefore conclude:

(87) *An affectively toned experience may engender organic sensations whose feeling-elements go to reinforce the like feeling-elements of the original experience (see result 8 above, p. 172).*

It may appear strange that I have not dealt with *the feeling-element of Mood* in this investigation. I incidentally touched upon it in the experiments of class F of which only a few were performed and these with two observers only. The reason is that I do not think that any satisfactory way exists of inducing a mood experimentally in the laboratory. I have tried Störring's experiment<sup>1</sup> and found it only occasionally, and sometimes only partially, successful. I do not think that an attempt has ever been made to produce an unpleasant Mood by analogous means and I should think its success would be still more doubtful. In the

<sup>1</sup> See above, pp. 20, 43, 85-6.

following conclusions I have therefore made use of my own observations as well as of the results obtained above. These, up to the present, seem to favour the view that

(88) *A Mood consists essentially of a detached feeling-element, very diffuse and often of marked intensity, which pervades the whole of consciousness and tones it affectively. It forms, so to speak, the constant background upon which the cognitive and conative experiences are fleeting and gives them their affective colouring, enhances their feeling-elements, if these be of the same quality, or tends to counteract them, if they be of the opposite quality. In its turn the feeling-element of the mood may be increased by the like feeling-elements of the cognitive and conative experiences, or be impaired or destroyed by their opposite feeling-elements if these are of sufficient intensity.*

I may refer here again to the interesting statements collected under δ8 and to Result 36 (p. 194) which they yielded, viz. that feeling-elements may remain constant whilst the cognitive contents to which they belong may be modified. That is, we are dealing here with mental processes that bear some resemblance to moods, as defined above, but are not moods. The very suggestive question arises: Have we to do here, possibly, with a first step in the evolution of the Mood, are these processes vestigial moods, or, perhaps, are they degenerated moods? I have no views on this subject.

## V. SUMMARY AND CONCLUSION.

This investigation, first planned to settle, if possible, by systematic introspection under experimental conditions some of the still undecided and controverted questions soon proved to furnish in the protocols sufficient material for a first attempt at what I may call a "*natural history*" of *feeling-elements*. The full description of a phenomenon ought to precede any theorising as to its nature, but the reverse has unhappily been the case with feeling. I am quite aware that my eighty-eight results do not constitute anything like a full description and a fresh mind working through the protocols will probably discover other interesting results which I have persistently overlooked. Further investigations on similar lines by others may, I hope, soon tend to complete the descriptive psychology of the *feeling-elements*.

These alone, however, will not suffice. A systematic investigation of pathological cases is of the utmost importance and I will not miss the

opportunity of pleading again that suitable cases of intelligent patients be entrusted to the examination of the experienced experimental psychologist. It may happen that the clinician has not had the necessary training, but what is more certain, he will seldom have the necessary time and patience for these protracted and tedious investigations. For as we have to rely upon introspections the patient, who must be intelligent, requires a lengthy and most careful education. How important it is that the experimenter be experienced and qualified is shown when we meet with statements in medical literature like the following: (To train patients) "One begins, in the first instance, with simple experiments, as e.g. the examination of difference-sensibility: Here one has then an objective measure for the ability of existing self-observation" (sic)<sup>1</sup>. The same author discusses in the same paper the suitability of his patients as observers and is of opinion that it is an advantage that they are lay persons, for "they have no theories to influence their statements." Probably the author is dimly conscious of his own prejudices and we find them consequently constantly recurring in the protocols of his hypnotic subjects. Although then the material upon which to build an hypothesis is far from complete, yet I think that that at present available gives already some indication as to the outlines of a theory of feelings. I shall not, however, concern myself with this here, but shall leave it for a future occasion.

The eighty-eight statements in which I have collected the results of my investigation do not follow one another in a scientific order, the arrangement is haphazard. Further, some of the statements are very similar, others overlap. In recapitulating the results I shall rearrange them as rules, putting the old numbers in brackets.

I [56, p. 210]. *The feeling-elements are not attributes or functions of sensations or other cognitive processes, but a separate class of conscious processes. Although generally closely dependent upon the cognitive and conative processes to which they belong they often show a certain independence and detachment.*

There is nothing to be added here, the subject having been discussed at some length in my previous paper<sup>2</sup>.

The second part of Rule I has been confirmed and amplified by other observations and can therefore be extended by Rule

<sup>1</sup> "Man beginnt zunächst mit einfachen Versuchen, etwa mit Prüfung der Unterschiedsempfindlichkeit: Hier hat man dann einen objektiven Massstab für die Leistungsfähigkeit der vorhandenen Selbstbeobachtung. Oskar Vogt: Zur Methodik der ätiologischen Erforschung der Hysterie." *Zeitschr. f. Hypnotismus*, 1898, VIII. p. 71.

<sup>2</sup> *This Journal* 1917, VIII. pp. 426-430.

II [45, p. 201]. *The connections of the feeling-elements with their cognitive or conative concomitants are mostly very close.*

The relation of the feeling-element to the attributes of a sense-experience are referred to in Rule

III [44, p. 201]. *The feeling-element of a sense-experience, etc., may depend upon one or more attributes of that experience.*

Very important is Rule

IV [57, p. 211]. *There are only two qualities of feeling-elements, viz. Pleasure and Unpleasure. Any differences except intensity, duration and extensity, are apparent only, and are found to belong to sensations, or other cognitive or to conative processes.*

The principal exponents of the two-dimensional theory are Berger, Calkins, Ebbinghaus, Höffding, Jodl, Külpe, Lehmann, Orth and Titchener, who use various arguments against the multi-dimensional theories of Wundt, Ribot, Royce, O. Vogt and others. This paper being experimental I am not concerned with the examination of the arguments for or against, but have merely to point out that the introspective evidence of my observers is unanimously in favour of the two-dimensional theory. My own introspections confirm this in every instance. Whenever I have experienced a mental process which I could describe as excitement (Erregung), inhibition or tranquillisation (Beruhigung), tension (Spannung), or relaxation (Lösung), it appeared to me invariably as a complex which I was undoubtedly able to analyse in most cases into conative factors, ideational factors, and sensational factors, the last being principally organic sensations.

The two qualities of the feeling-elements, Pleasure—Unpleasure, have been regarded at times as opposite directions, positive-negative, of the same psychical process: Pleasure diminishing in intensity passes through a neutral (zero or transition) point to Unpleasure, and vice versa. We have, however, from p. 209, Rule

V [55, p. 209]. *If a feeling-element changes from pleasant to unpleasant, or vice versa, this change need not pass through a neutral or transition point.*

However tempting the theory referred to may at first sight appear there is, to my mind, just as little justification for it as there is to regard sensations of heat and cold in a similar manner. With heat and cold the physical analogy had at first misled psychologists. To-day it is an established fact that they are different sensations depending upon different end-organs. There is not a solitary statement to support the assumption that Pleasure—Unpleasure are different intensities of the

same psychical process whilst the fact established by Rule V goes a long way as evidence that Pleasure—Unpleasure are different qualities of feeling-elements. This I will express by Rule

VI. *Pleasure—Unpleasure are not different intensities of the same psychical process but different qualities of the feeling-elements.*

Rule III above must not be confounded with Rule

VII [1, p. 167]. *A feeling-element may be attached to the intensity of a sensation, quā intensity.*

The more usual occurrence is that the feeling-element is attached to the sensation of a given intensity, but here the feeling-element belongs to the intensity as such.

VIII [2, p. 167]. *The low intensity of a sensation may give rise to Unpleasure in the form of disappointment.*

Disappointment is an unpleasant surprise where the Unpleasure is due to the idea of the absence of something that was expected. The "something expected" is here a certain intensity of the sensation.

IX [3, p. 168]. *A change in the intensity of a sensation may be accompanied by a change in the quality of the feeling-element.*

This is a phenomenon of constant occurrence and this entitles me to alter result 3 here from "increase" to "change." For a loud unpleasant sound may become pleasant with decreasing intensity, and similar instances will occur to anyone.

X [4, p. 168]. *A change in the intensity of a sensation may be accompanied by a change in the intensity of the feeling-element either pari passu or at a different rate.*

Here again I have generalized from "increase" to "change" for reasons similar to those given in the preceding paragraph.

XI [38 and 58, pp. 196 and 213]. *A fluctuation in the intensity or clearness of a sensation may be accompanied by a corresponding fluctuation in the intensity or clearness of its feeling-element.*

Although a feeling-element is generally considerably less clear than a sensation, yet its relative clearness may vary markedly.

XII [37, p. 196]. *A fluctuation of attention between two sensations, or a fluctuation of intensity, or clearness, or prominence in consciousness of two sensations, or of two attributes of a sensation-complex, may be accompanied by a corresponding fluctuation between the respective feeling-elements.*

XIII [59, p. 213]. *In the case of a pleasant auditory sensation the intensity of the feeling-element may increase with the decrease of the sensation.*

It is highly probable that in the case of other senses analogous observations will be made. However I can here only formulate rules

according to actual observations and extend these only in such cases where the experiences seem to be general and easily made.

XIV [54, p. 209]. *A feeling-element may increase in intensity to such an extent as to overshadow its cognitive concomitant and, engendering conative tendencies, give rise to an emotion.*

XV [5, p. 169]. *A feeling-element may be attached to the duration of a sensation, quâ duration.*

This rule is analogous to Rule VII above, and a similar warning is necessary. This must be distinguished from those cases where the feeling-element belongs to a sensation which, of course, has a certain duration. Here the feeling-element is attached to the duration itself as such.

XVI [6, p. 169]. *The feeling-element of a rhythm may be pleasant, although the rhythmically recurring sensation may be unpleasant.*

It appears to me exceedingly probable that a rhythm may be unpleasant although the rhythmically recurring sensation may be pleasant, so that this rule could then be extended to the assertion of the independence of the feeling-element of a rhythm and the feeling-element of the recurring sensation.

XVII [39, p. 196]. *Great individual differences exist in the experience of fluctuations of cognitive contents and their feeling-elements.*

XVIII [7, p. 172]. *Great individual differences obtain respecting the experience of organic sensations as accompaniment to sensory or other experiences.*

XIX [8, p. 172]. *Whenever organic sensations accompany an experience that carries a feeling-element, then in the vast majority of cases the feeling-element of these organic sensations is of the same quality as that of the experience they accompany.*

This rule becomes more specific in the following one.

XX [87, p. 232]. *An affectively toned experience may engender organic sensations whose feeling-elements go to reinforce the like feeling-element of the original experience.*

This rule I consider of considerable importance. It forms the starting point for an explanation of the emotions and is the basis of the peripheral theories of feeling.

XXI [9, p. 173]. *When fusion or combination of cognitive elements takes place there may be, or there may not be, some algebraic summation of the feeling-elements.*

The reversal of this rule is expressed in the next one.

XXII [10, p. 173]. *On analysis of a cognitive complex its feeling-tone may, or may not, be split up.*

XXIII [12, p. 175]. *A situation as it presents itself to an observer may have a definite feeling-element attached to it.*

XXIV [13, p. 175]. *A mental attitude may have a definite feeling-element attached to it.*

XXV [14, p. 175]. *A mental attitude may, or may not, influence the feeling-element attaching to a sense-experience towards which the attitude is directed.*

It must be distinctly borne in mind that this rule refers to the attitude itself, and not to any feeling-element of that attitude.

XXVI [15, p. 177]. *Thoughts and ideas about a sense-experience may, or may not, influence the feeling-element of that sense-experience.*

Here again it is to thoughts and ideas, and not to any feeling-elements of these, that reference is made.

XXVII [16, p. 177]. *The feeling-element of any state of expectancy (thought or idea) appears to depend upon the feeling-element of the expected experience. Or, the feeling-element of an expected experience, as represented by an image or idea, is anticipated in the state of expectancy.*

Although the wording varies slightly from that of result 16, the meaning is the same.

XXVIII [11, p. 174]. *Realisation of a conative tendency, and recognition of a sense-experience are generally accompanied by Pleasure and their failure by Unpleasure.*

XXIX [53, p. 208]. *The recognition of a feeling-element may precede the recognition of its cognitive concomitant.*

The further example given in proof of Rule L (p. 242) also confirms the present rule.

XXX [17, p. 177]. *There is no constant relation between the feeling-element of a sense-experience and the feeling-element of an associated idea, etc., ekphored by that sense-experience.*

This rule is important, for its corollary is that no associations between two experiences are formed through similar feeling-elements. This confirms Gordon's<sup>1</sup> work that the feeling-elements do not assist in the recognition of sense-impressions with which they are connected. If isolated cases are now and again cited which appear to disprove the above statement it will probably be found on closer examination that the "knowledge" of having experienced Pleasure or Unpleasure, i.e. a cognitive factor and not the affective one, forms the connecting link.

<sup>1</sup> Kate Gordon: "Über das Gedächtnis f. affektiv bestimmte Eindrücke." *Arch. f. d. ges. Psych.* 1905, IV, p. 437 seq.

XXXI [18 and 19, p. 180]. *A feeling-element may be produced, or increased, or decreased by contrast.*

XXXII [20 and 21, p. 180]. *The feeling-element may be produced, or increased, or decreased by comparison.*

XXXIII [22, p. 180]. *A change or transition (which may include also cessation) may, quâ change, have a feeling-element attached to it. When the feeling-element is pleasant, while that of the sense-experience was unpleasant, the change is experienced as relief.*

XXXIV [23, p. 181]. *The valuation of a sense-experience may influence its feeling-element.*

It is this rule which is of paramount importance in ethical and aesthetical emotions.

XXXV [24, p. 182]. *The lack of adaptation for an experience has generally an unpleasant feeling-element.*

XXXVI [25, p. 184]. *The feeling-element attaching to an effort to overcome an obstructing resistance appears to be often unpleasant.*

XXXVII [26, p. 184]. *The feeling-element attaching to a movement, an incipient movement, or a tendency to movement resulting from a conative process is generally pleasant.*

This rule is in harmony with Rule LXXV, p. 247.

XXXVIII [27 and 28, p. 185]. *Feeling-elements may arise, or combine, before or after the rise or the combination of the respective cognitive experiences to which they attach themselves; they may cease before, or persist after, the cessation of their cognitive experiences.*

The importance of this rule consists in the demonstration of a certain detachment and independence of the feeling-elements as regards their cognitive concomitants, which mere qualities or functions could not possibly possess. It is true that such independence is of comparatively rare occurrence, but it is sufficient that it exists. See also Rule XLIV, p. 240.

XXXIX [29, p. 190]. *Two or more feeling-elements may co-exist in consciousness; they may be like or they may be unlike.*

This much controverted question of the co-existence of feeling-elements appears to me to be definitely settled now. It is true that individual differences exist in the ability to experience feeling-elements together (Rule XLI, p. 240), but this improves with practice (Rule XLII, p. 240), and all my observers were able to experience the co-existence at some time or other. The individual difference seems to be explained by Rule XLV, p. 240, respecting the existence of a positive correlation between simultaneity of feeling-elements and fluctuation of attention.

The acute divergence of opinion on co-existence of feeling-elements, due to the said individual differences, was intensified by the importance of the question, and the fact that the denial of co-existence had assumed the form of a dogma and constituted one of the last strongholds of the interactionists, a "proof" of the existence of a metaphysical "soul."

XL [30, p. 190]. *There is some indication that it may be easier for two pleasant feeling-elements to co-exist than for two unpleasant ones.*

The fact seems to find an explanation in Rule LXXV, p. 247, that the conations produced by pleasant feeling-elements tend to intensify and prolong them, whilst conations produced by unpleasant feeling-elements tend to weaken and shorten them. It would, therefore, be easier to attend (in the sense as my observers used this term in these experiments) to two pleasant than to two unpleasant feeling-elements.

XLI [31, p. 190]. *Great individual differences obtain in the apprehension of the co-existence of feeling-elements.*

This has been commented upon above together with Rule XXXIX, p. 239.

XLII [32, p. 190]. *The ability to apprehend the co-existence of feeling-elements is improved with practice.*

This rule too was referred to above under Rule XXXIX, p. 239.

XLIII [33, p. 191]. *A feeling-element supervening upon another feeling-element may become so strong as to obscure or destroy the latter.*

There is little comment to be made here. The reverse of this rule is, of course, precluded from manifesting itself, i.e. if an existing feeling-element grew in intensity any supervening feeling-element would be prevented from rising and becoming a factor in consciousness.

XLIV [34, 35, 36, 41, pp. 192-4, 197]. *A given cognitive content of consciousness may or may not undergo a change together with its feeling-elements, or either of them may change whilst the other remains unchanged.*

This rule tends to confirm the independence which is occasionally met with in a certain degree between feeling-elements and their cognitive concomitants and which was referred to in Rule XXXVIII above, p. 239.

XLV [40, p. 196]. *There appears to be strong evidence for the existence of a positive correlation between (1) the experience of a fluctuation of attention between two sensations, etc., and a corresponding fluctuation between their respective feeling-elements (Rules XI and XII) and (2) the experience of the co-existence of two or more feeling-elements (Rule XXXIX).*

This rule was commented upon above together with Rule XXXIX.

XLVI [42, p. 198]. *Similar feeling-elements may fuse.*

This fact is of constant experience.

XLVII [43, p. 200]. *Opposite feeling-elements may fuse, sometimes tending to mutual neutralisation, sometimes without any neutralisation, producing in the latter case a "mixed feeling."*

The fusion of opposite feeling-elements resulting in neutralisation may be regarded as algebraic summation. When the fusion does not result in neutralisation a "mixed feeling" is the outcome. This must on no account be confused with the co-existence of two opposite feeling-elements. In co-existence the feeling-elements are separate and independent one of another, they are held apart in consciousness and can be individually attended to. In a "mixed feeling" they are not separate, they are fused as, say, the red and yellow are fused in orange. It is sometimes possible to split up a mixed feeling resulting in the co-existence or alternation of the two elements or in the loss of one of them.

As a common example of such fusion of opposite feeling-elements I may mention that mood termed in German *Wehmut* and for which there is no English equivalent. It is rendered as Melancholy in Olivia's song in Goldsmith's *Vicar of Wakefield*:

What charms can soothe her melancholy.

Washington Irving in his *Sketch Book* (Rural Funerals) refers to it thus: "The sorrow for the dead is the only sorrow from which we refuse to be divorced. Every other wound we seek to heal—every other affliction to forget; but this wound we consider it a duty to keep open—this affliction we cherish and brood over in solitude." And still more telling we have Longfellow's beautiful lines (*The Day is done*):

A feeling of sadness and longing  
That is not akin to pain,  
And resembles sorrow only  
As the mist resembles the rain.

Opposite feeling-elements are also often fused in the sentiments of Love and Hate. Goethe makes the poet in the prologue to *Faust* say:

Gieb ungebändigt jene Triebe,  
Das tiefe schmerzenvolle Glück,  
Des Hasses Kraft, die Macht der Liebe,  
Gieb meine Jugend mir zurück.

XLVIII [52, p. 208]. *Similar feeling-elements attached to different cognitive contents can often be distinguished one from another and kept apart in consciousness.*

This rule is parallel to Rule XXXIX.

XLIX [46 and 47, p. 204]. *The predominant feeling-element in an emotional process or the feeling-element of one cognitive process may induce a like feeling-element in another cognitive process occurring about the same time.*

The principle expressed in this rule is commonly known as the "transfer of feeling." It is an important and constantly recurring factor in our daily life. I think, e.g., that it contributes more actively than anything else to the fact that even the most ugly fashions in women appear, after a very short time, quite attractive to men. The crinoline is probably too distant in time for most of my readers, but many will doubtless remember the bustle or tournure and the "concertina sleeve," and how soon their repulsive unsightliness changed into pleasant attraction which was possibly mistaken by some for an aesthetic emotion. The eternal-feminine remains always attractive and pleasant—this is a biological necessity—and this pleasure is soon transferred to the most hideous devices that can be imagined by women to disfigure themselves or hide their gracefulness.

LI [48, p. 207]. *Feeling-elements can often be localized. The ability to do so depends to some extent upon the attitude of the observer towards the feeling-element. The more his attitude allows him to objectify the feeling-element the easier is it to localize the feeling-element, or, possibly, vice versa.*

The question of localization of the feeling-elements has been as hotly controverted as that of their co-existence, and I hope that now it will be considered as definitely established. All my observers are in agreement about it. With the demonstration of this fact there falls another of the bulwarks of the interactionist's metaphysical "soul" to which I have referred already above in connection with Rule XXXIX. The localizability of the feeling-elements depends to a great extent upon the sense to which the sensorial experience carrying the feeling-element belongs. This will be dealt with especially in Rule LIII. I have recently made upon myself an interesting observation confirming the present rule. I was working one afternoon in the late autumn close by an open window, and was quite absorbed by my task. Suddenly, I became aware and at once reflexly attended to marked unpleasure localized at the lower part of the thighs just above the region of the knee-joints. Then, quite a second or two later, I became conscious that I felt cold where I had first localized unpleasure and now localized the unpleasant cold sensation. This observation also illustrates Rule XXIX above.

LI [49, p. 207]. *The ability to localize the feeling-elements improves greatly with practice.*

LII [50, p. 207]. *Great individual differences obtain with respect to the ability to localize the feeling-elements, especially those of auditory and visual sensations.*

LIII [51, p. 207]. *The behaviour of feeling-elements is inverse to that of sensations in this way, that whilst sensations of the auditory and visual senses are more readily objectified than those of the other senses, the feeling-elements when belonging to the former are less readily objectified and localized than when they belong to the latter.*

LIV [67, p. 218]. *Pain is not a feeling-tone, not the acme of unpleasantness. It is a sensation of a definite modality whose feeling-tone is mostly unpleasant, but which may be neutral or even pleasant at times.*

This rule has been discussed at some length in my paper in this *Journal*, vol. VIII, pp. 450-462.

LV [60 and 68, pp. 213 and 218]. *The increase in the intensity of a pain-sensation is often accompanied by a relatively much more rapid increase in the intensity of its unpleasantness.*

This rule had not been established in my previous paper.

LVI [79, p. 227]. *Relaxation or passive distribution of attention appears to be conducive to a pleasant mood, whilst the concentration of attention, the focussing of the attention upon something, tends to destroy such a mood.*

All the relative statements of my observers deal with pleasant moods. Whether this rule applies also to unpleasant moods I cannot say. I entertain doubts.

LVII [62, p. 214]. *A mood produced by a sensory stimulus may outlast its sensation.*

This fact is of very common observation. A joyous mood that has been engendered say by a cheerful fire does not forsake us as soon as we quit the room. A mishap that thwarts an experiment will leave us vexed and peevish long after we have ceased to think of the accident.

LVIII [63, p. 215]. *The feeling-element of a mood may sometimes remain distinct and separate from the feeling-element of the cognitive content, sometimes these feeling-elements may fuse.*

LIX [61, p. 214]. *Moods and organic sensations may occur quite independently, but they may also occur closely and possibly causally connected.*

LX [64, p. 216]. *A mood may sometimes be produced by the fusion of similar feeling-elements, sometimes it may emerge from a single feeling-element.*

LXI [65, p. 217]. *A mood may influence the feeling-element of a cognitive process and vice versa.*

LXII [66, p. 217]. *An attitude of mind may influence a mood or the feeling-element of a cognitive experience and vice versa.*

LXIII [88, p. 233]. *A mood consists essentially of a detached feeling-element, very diffuse and often of marked intensity, which pervades the whole of consciousness and tones it affectively. It forms, so to speak, the constant background, upon which the cognitive and conative experiences are fleeting, and gives them their affective colouring, enhancing their feeling-elements, if these be of the same quality, or tending to counteract them, if they be of the opposite quality. In its turn the feeling-element of the mood may be increased by the like feeling-elements of the cognitive and conative experiences or be impaired or destroyed by opposite feeling-elements if these are of sufficient intensity.*

The point I wish to emphasize in this definition is that the mood consists essentially of a detached feeling-element. Herein I agree with Wahle, who looks upon the moods as feelings without objects of feelings<sup>1</sup>, but find myself in opposition to Rehmke<sup>2</sup>. My definition differs from Stumpf's, who holds that the feelings of the mood are partly rooted in sensations from vegetative organs<sup>3</sup> postulating, as is so often done, organic sensations when they are not discoverable as conscious factors. In these pages a certain independence of the feeling-elements has been demonstrated in many other connections and in the mood the detachment is found complete. This does not, of course, deny that organic sensations may occur. They often do and, like other sensations and their feeling-elements, may greatly influence the mood.

LXIV [69, 70, 71, pp. 220-1]. *There is nothing on the affective side of consciousness to correspond with the memory-image on the cognitive side. The memory of a past feeling-element is merely knowledge, i.e. solely cognition. The affective experience attaching to an ekphored cognitive experience is a new feeling-element, a new pleasure or a new unpleasure.*

The view that has been generally held is that the "revived feeling," the "remembered feeling," the "centrally excited feeling" is often more vivid than the original feeling, whilst the revived, the remembered, the centrally excited sensation, that is, in short, the memory-image of the sensation is not so vivid as the original. The fallacy here consists in the

<sup>1</sup> "Stimmungen sind Gefühle ohne Gegenstand des Gefühls." *Das Ganze der Philosophie und ihr Ende, etc.*, 1894, p. 392.

<sup>2</sup> *Zur Lehre vom Gemüt*, 1911, p. 85 seq.

<sup>3</sup> "die...teils in den Empfindungen der vegetativen Organe wurzeln. Über den Begriff der Gemütsbewegung." *Ztsch. f. Psych.*, etc., 1899, xxi. p. 49

fact that the terms "revived," "remembered," "centrally excited," mean something different in the two cases. As my observers repeat over and over again, they were unable to discover any mark whatsoever by which the feeling-element of a sensation and the feeling-element of the memory-image of a sensation could be distinguished one from another. Besides, my experiments of class D come, I think, as near a crucial experiment as we can expect to get in an investigation of this kind.

I need not go into the matter again as I fully discussed it above (p. 218).

LXV [72, p. 222]. *In a judgment as to preference between two or more experiences there may, or there may not, be images with or without feeling-elements. But these are in no way essential to the judgment which can be a purely intellectual act.*

This rule must not be misconstrued. It asserts that the judgment as to the difference of intensity of similar feeling-elements can be, and, I believe, generally is, a purely intellectual act, i.e. the feeling-elements do not enter directly into the comparison and judgment, but only the knowledge about them. On the other hand I believe, although it sounds paradoxical, that in judgments on intellectual matters the sway of emotions (feeling-elements and conations) is greater than most people would like to admit.

To supplement the protocols I will record an observation upon myself which appears to me sufficiently interesting. Whilst engaged upon this research I had been reading at intervals in spare moments Sudermann's *Im Zwielicht*, a collection of unconventional short stories. I had read already about half a dozen of them, all of which had been interesting and amusing, affording me a fair amount of pleasure, when I came to a story entitled "Des Hausfreunds Sylvesterbeichte." Without enlarging upon the merits of this, suffice it to say that, as I closed the book, I found myself pronouncing this story as "the best of the lot." Immediately I asked myself "How did you arrive at this judgment?" and at once introspected. Besides the ideas that I had just read the story, that I had experienced very great pleasure and conation in the form of interest and rapt attention, with some remnant of this pleasure still present probably as mood and some new but slighter pleasure from organic sensations connected with relaxation, there was, in the background some faint idea, wordless and imageless, the knowledge of having read other stories of this collection and that they had been pleasant. There was present no trace of either their titles or their contents. The

judgment was an immediate one without any real comparison; there was the absolute knowledge of this last being the most pleasant, that I had experienced no such intense pleasure with the other stories.

LXVI [73, p. 224]. *If a feeling-element is attended to as belonging to a cognitive content, or as a part of a situation or complex, it is intensified and becomes clearer; but if an attempt be made to focus the attention upon it to the exclusion of its cognitive concomitant the feeling-element is destroyed.*

This rule then admits that the two contending views to which reference was made above are both correct and that their opposition is only apparent and due to the fact that the term "attention" had been used with a different connotation in each case.

Further, this rule ought to receive a prominent place in Kalobiotics.

LXVII [74, p. 225]. *If an affectively toned cognitive experience is attended to in such a manner that the attention is focussed solely upon the cognitive aspect of the experience as such, the feeling-element is decreased or lost.*

LXVIII [75, p. 225]. *If two cognitive elements belonging to the same complex experience have different feeling-elements attached to them, and the attention is directed to one of the cognitive elements, the feeling-element of this cognitive element may be increased by the loss of the feeling-element of the not-attended-to cognitive element.*

For Kalobiotics this rule is at least as important as Rule LXVI.

LXIX [76, p. 226]. *If a cognitive experience has attached to it a feeling-element of some intensity it may become the object of attention by virtue of its feeling-element.*

This rule is one of constantly recurring observation and is frequently made use of in pedagogy.

LXX [77, p. 226]. *An effort of attention may have an unpleasant feeling-element.*

It is a matter of everyday observation that this is not always the case. The effort to attend to a problem in order to solve it is mostly accompanied by pleasure as long as fatigue is absent.

LXXI [78, p. 226]. *An interference with attention generally produces unpleasure which may be attached to the interfering sense-experience or to the interruption, quâ interruption.*

It is quite possible that in every case the feeling-element is, in the first instance, attached to the interruption itself and is then transferred to the interrupting sense-experience. If this is so it would be a particular case of Rule XLIX, p. 242.

LXXII [83, p. 229]. *It may be impossible to inhibit the feeling-element of a sense-experience as long as the sense-experience is attended to.*

Here, of course, the term "attending" is used as in the first part of Rule LXVI, p. 246.

In order to inhibit, or at least to weaken, a feeling-element three possible ways appear to be open: (1) to attend to the cognitive content as such, i.e. to focus attention solely upon it (Rule LXVII); (2) to attend to the feeling-element itself in such a way as to attempt to isolate it, to analyse it from its cognitive concomitant (Rule LXVI, 2nd part); (3) to attend to some other cognitive experience (Rule LXI). If, however, the feeling-element is of sufficient strength it will tend to counteract all efforts (Rule LXVIII).

LXXIII [84, p. 229]. *A conative tendency may tone affectively a sensory experience by which it is produced.*

This is especially the case with the conations of instincts, e.g. those of the sexual instinct.

LXXIV [80, p. 229]. *The conative tendencies produced by sensory unpleasure are much more frequent and much more powerful than those produced by sensory pleasure.*

This rule finds its explanation in the next one, Rule LXXV. There is, as a rule, little to be done except indirectly as indicated above in Rules LXVI and LXVIII, to intensify the pleasant stimulus, whilst to diminish the unpleasant stimulus, as by getting away from it or removing it, strong conations are required to accomplish it.

LXXV [81 and 82, p. 229]. *The conative tendencies produced by sensory pleasure tend to the approaching of the pleasant stimulus, to the prolonging of the pleasure, and to the intensifying of it. The conative tendencies produced by sensory unpleasure tend to the getting away from, or removing of, the unpleasant stimulus, to the shortening of the unpleasure or to the weakening of it.*

This rule is a biological necessity and will be better understood after the consideration of the theoretical aspect of the feeling-elements with which, however, as said above, I am not concerned in the present paper.

Rule XXXVII, p. 239 above, is in harmony with this.

LXXVI [85, p. 230]. *A judgment respecting the intensity of a feeling-element may be determined by the intensity of the conative tendencies engendered by that feeling-element.*

Since according to Rule LXXIV the conative tendencies consequent upon unpleasant sensations are much more powerful than those produced

by pleasant experiences, it follows that Unpleasures appear more often very intense than Pleasures do.

LXXVII [86, p. 231]. *One feeling-element may be “compensated” by another, i.e. in a complex experience a feeling-element may be joined by another feeling-element without the former’s quality or intensity being altered, but the conative aspect of the total experience becomes modified.*

I am able at present to verify this rule every morning. At the moment of stepping out of my cold bath on these winter mornings I experience unpleasant cold all over the body, but the Unpleasure is especially intense at the feet and the epigastrium. I then take the bath-towel which has been slightly warmed before the stove and apply it first to my head to dry my hair. The resulting sensation of warmth is intensely pleasant, so much so that I often say to myself that this Pleasure alone is worth the Unpleasure of the shiver. I have introspected over and over again during these moments and have attended especially to the Unpleasure of the cold on my feet and have established invariably that the cold and its Unpleasure are not in the least diminished by the warmth and its Pleasure on the head, but the totality of my experience becomes more tolerable. The Pleasure of the warmth “compensates” for the Unpleasure of the cold. I experience both sensations and both feeling-elements simultaneously.

This finishes the Rules which I have been able to formulate from the Results obtained from the protocols. It is an attempt, as it were, at a *Natural History of the Feeling-Elements*. I am quite aware that this “History” is as yet very fragmentary, but it is, I think, as much as can be expected from a first attempt. Further investigations by other workers are necessary, and continued self-observations may, I hope, tend to complete the possible number of Rules. Some of the Rules will doubtless have to be modified, others to be extended, some merged into one another, others reduced to some common principle, and so on. When this is done it will be possible, by and by, to arrange the Rules in systematic order and the “Natural History” will approach completion.

Another line of investigation to which I have referred above (p. 234), namely, the examination of pathological cases, I consider of the utmost importance, and expect from it great results. As this work proceeds we shall be more and more able to attempt with some promise of success the formulation of a satisfactory theory of the physiological and anatomical basis of the feeling-elements. This is the natural order of development of any branch of science, but with the feeling-elements the inverse

order has been followed. Theories we have had galore, but no systematic description of the phenomenon.

Besides supplying a basis for the enunciation of a satisfactory theory of the feeling-elements, the systematic description of their behaviour has other and more directly practical applications. We shall, for instance, be able to formulate canons in order to increase Pleasure and reduce Unpleasure, to evolve from the essays of Bronn<sup>1</sup> and Feuchtersleben<sup>2</sup> to a normative science of Kalobiotics. In our care of the sick in mind or body we are already following certain empirical rules. The physician knows that the pretty face and the immaculate dress of the Sister, a beautiful bunch of flowers, are often almost as potent as his medicine, especially during convalescence. These empirical rules will receive a scientific foundation, their value and importance will be enhanced, and their number increased.

The rules may prove useful also in another direction, namely, they may conduce to a better understanding of an otherwise apparently paradoxical or obscure occurrence of which I give some illustrations in the appendix.

Reverting to my remarks about the theory of the nature of the feeling-elements it must be remembered that such a theory will have to account for the close connection between the feeling-elements and their cognitive or conative concomitants, for their partial independence, for their detachment in moods, for the possibility of the co-existence of like and unlike feeling-elements, for the possibility of their fusion, for their localizability, their transferability and their inability to form associations between cognitive experiences, etc., etc.

The material collected appears to me to point already in a certain direction, but I defer the formulation of a theory to some future occasion, hoping that in the meantime fresh facts will accumulate towards the completion of the *Natural History of the Feeling-Elements*, which is essential to the successful formulation of such a theory.

## APPENDIX.

To give an illustration I will here employ the rules formulated in the elucidation of one or two apparently paradoxical experiences.

The first is my own. I remember many years ago having three decayed teeth, one bicuspid and two molars, in the right upper jaw.

<sup>1</sup> Bronn, *Die Kalobiotik*, Leipzig, 1844.

<sup>2</sup> Ernst, Freiherr von Feuchtersleben, *Zur Diätetik der Seele*, 45te Auflage, 1882.

I had avoided having these attended to doubtless on account of the Unpleasure of the operation of stopping. At the time to which I refer one of the molars was painful. All attempts to allay the toothache were unsuccessful and I decided to have this one tooth extracted. I must have gone to the dentist's with some trepidation, but I remember distinctly, although it is now over twenty years ago, that I pronounced the whole experience as pleasant and I had the other two decayed teeth, which did not trouble me at all, extracted at the same time. I had no gas. I had at that time no experience of psychological analysis, hence I did not introspect and kept no record.

What happened was probably this:

- (a) I had been suffering for days and nights with violent toothache which was highly unpleasant (Rules LIV and LV, possibly also XV).
- (b) The great intensity of the Unpleasure kept the attention riveted to the sensation (Rule LXIX) and attending to the sensation increased in turn the Unpleasure (Rule LXVI). Thus a vicious circle was set up.
- (c) I remembered previous tooth-extractions (images, thoughts, ideas) which were unpleasant (Rule LXIV).
- (d) I anticipated a similar unpleasant experience and this state of expectancy was also very unpleasant (Rule XXVII).
- (e) The endurance of the pain engendered marked organic sensations which were also highly unpleasant (Rule XIX).
- (f) The conative tendency would be to keep away from the dentist's. To overcome these would be highly unpleasant (Rule XXXVI).
- (g) The situation as given in the preparation for the operation, sitting down in the dentist's chair, watching the picking up of the forceps, etc., was unpleasant and produced still more unpleasant organic sensations (Rule XXIII and again Rule XIX).
- (h) Probably all the teeth were dead, i.e. the nervous fibrils had been destroyed, hence the violent pain due to the severance of the nerve at the moment of extraction was absent and only a slight pain due to the laceration of the gums was all that was experienced producing a marked pleasant feeling-element by contrast (Rule XXXI).
- (i) With the extraction the violent pain due to the peridontitis was much diminished or possibly ceased, giving rise to very pleasant relief (Rule XXXIII).
- (k) With the production of only a minimal pain of slight Unpleasure organic sensations were engendered which had a markedly pleasant feeling-element, terminating with the idea of having got over the

operation in an emotion of joy (Rule XIX) and destroying the Unpleasure of the pain (Rule XLIII).

The next experience I will endeavour to analyse and explain by these rules is narrated by Mark Twain in *The Innocents Abroad*, chap. 18:

Mark Twain had, when a boy, run away from school once and having a delicacy about going home and getting thrashed he crept through a window into his father's office in order to pass the night there on a lough (? couch). In the dark he espied on the floor a shapeless mass which he failed to make out and which scared him. As the moon crept slowly round shedding its light through the window it revealed gradually the corpse of a man with a stab in the chest. Mark Twain terrified got out again by the window and hurried home. They whipped him and, he says, he "enjoyed it. It seemed perfectly delightful."

This seemingly paradoxical experience may possibly be explained as follows.

(a) As Mark Twain hurried home the state of terror doubtless continued. The perseverating image of the murdered man, the thoughts and ideas and the organic sensations (Rule XIX), his attitude of mind (Rule XXIV) all these were connected with and went to make up the emotions of fear and terror and were all extremely unpleasant.

(b) The conative movements of flight from the horror were pleasant (Rule XXXVII), but this feeling-element was probably too weak to assert itself (corollary to Rule XLIII, p. 240).

(c) When he reached home the sight of the house was pleasant owing to its associations (Rule XLIX).

(d) The intensity of these Pleasures was increased by contrast after the Unpleasures of the fear and terror (Rule XXXI).

(e) Powerful organic sensations were produced, also highly pleasant, which gave rise to the emotion of joy (Rule XX).

(f) The sight of his parents, the sound of their voices, the idea of having escaped from that horrible situation in the presence of the murdered man, all were pleasant and added further Pleasures to those of the emotion of joy (Rules XXVIII and LXXIII).

(g) The flicks with the whip caused pain which was unpleasant (Rule LIV), but

(h) these sensations of touch and pain increased the reality of the whole experience and this idea influenced the unpleasant feeling-element of the pain (Rule XXVI).

(i) The feeling-element of this idea of the reality was pleasant in itself and together with the intense Pleasures of the existing emotion of

joy counteracted and swamped the Unpleasure of the pain produced by the whip-cuts (Rule XXXVII or the corollary to Rule XLIII).

(k) His attitude towards the experience of the whipping also influenced, and would diminish, the Unpleasure of the pain (Rule XXV).

(l) His attention being directed to that part of this complex situation which comprised the thoughts of being away from the scene of the tragedy and with his parents, and not directed to the pain from the whip, the Pleasure would be still further increased and the Unpleasure still further decreased (Rule LXVIII).

(m) Possibly the "Principle of Compensation" also affected the total experience (Rule LXXVII).

Hence Mark Twain enjoyed the whole experience and the whipping seemed "perfectly delightful."







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